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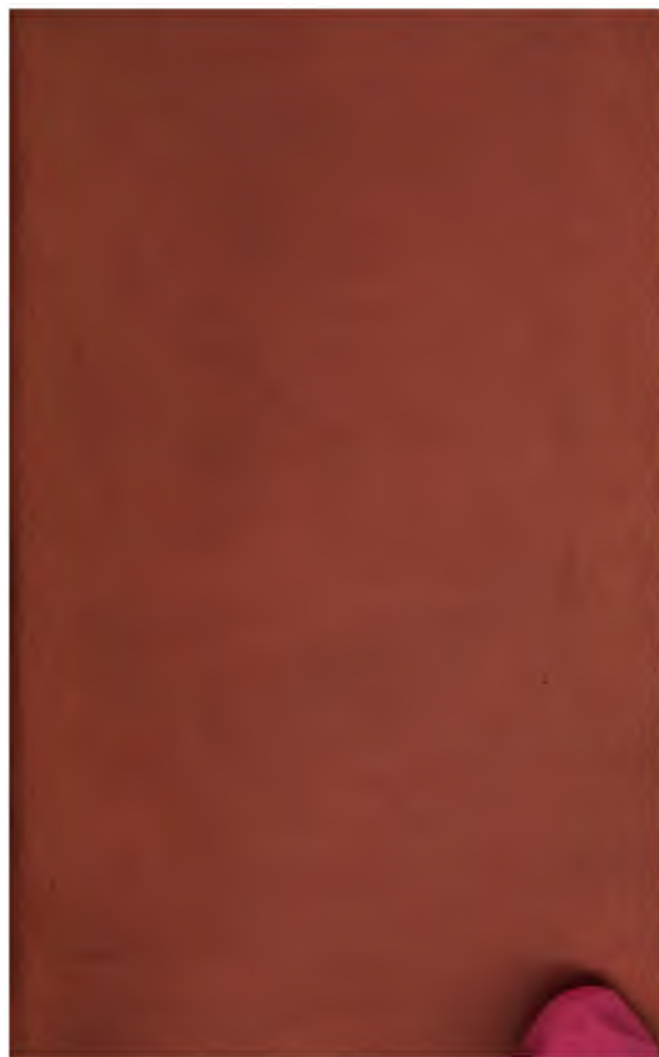
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See Opposite.

Winn & Co.

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The best Paper of the
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THE
UNITED STATES
PATENT LAW.

INSTRUCTIONS
How to Obtain Letters Patent
FOR NEW INVENTIONS:

AS A VARIETY OF USEFUL INFORMATION CONCERNING THE
BUSINESS AND PRACTICE OF THE PATENT-OFFICE; HOW TO SELL
PATENTS; HOW TO SECURE FOREIGN PATENTS; FORMS FOR
ASSIGNMENTS AND LICENSES; TOGETHER WITH EN-
GRAVINGS AND DESCRIPTIONS OF THE CON-
DENSING STEAM-ENGINE, AND THE
PRINCIPAL MECHANICAL MOVE-
MENTS, VALUABLE TABLES,
CALCULATIONS, PROB-
LEMS, ETC., ETC.

BY
MUNN & CO., SOLICITORS OF PATENTS,
No. 37 Park Row, New-York.

New-York:

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1867.

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HINTS TO INVENTORS,
CONCERNING THE

Procuring of Patents,

EITHER

AMERICAN OR FOREIGN,

WITH

SUGGESTIONS AND VALUABLE INFORMATION

TO

PATENTEES.

MUNN & CO., PATENT SOLICITORS,
SCIENTIFIC AMERICAN OFFICE.

No. 37 PARK ROW, NEW YORK.

1861.

E. O. JENKINS, Printer, 26 Frankfort St.

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Gift of
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of Boston.
Nov. 1835.

3.

ADVICE TO INVENTORS.

HOW TO OBTAIN

American & European PATENTS.

WHEN an individual has made an invention, the first inquiry that naturally suggests itself is, "*Can I obtain a Patent?*" A positive answer to this question is only to be had by presenting a formal application for a patent to the Government, embracing a petition, specification, model, duplicate drawings, and the payment of the prescribed official fees. Aside from these steps, all that the inventor can do is, to submit his plans to persons experienced in the business of obtaining patents, and solicit their opinions and advice. If the parties consulted are honorable men, the inventor may safely confide his ideas to them, and they will inform him whether or not his invention is probably patentable.

Those who have made inventions, and desire to consult with us respecting the same, are *cordially invited to do so*. We shall be happy to see them in person at our office, or to advise them by mail, or through the SCIENTIFIC AMERICAN. In all cases they may expect from us an *honest opinion*. For these consultations, opinion and advice, *we make no charge*. A pen-and-ink sketch and a description of the invention should be sent, together with a stamp for return postage. Write plain; do not use pencil nor pale ink; be brief.

Remember that all business committed to our care and all consultations are kept by us *secret and strictly confidential*.

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PRELIMINARY EXAMINATIONS.

1. In many cases it will be advisable, as a measure of prudence, to order a **PRELIMINARY EXAMINATION**. This consists of a *special search*, made at the U. S. Patent Office, Washington, through the medium of our house in that city, to ascertain whether among all the thousands of patents and models there stored, any invention can be found which is similar in character to that of the applicant. On the completion of this special search we send a *written report* of the result to the party concerned, with suitable advice. Our charge for the service, including the report, is \$5. This search, though it involves the expense just named, will usually prove by far the most satisfactory. If the same device has been before patented, the time and expense of constructing models, preparing documents, &c., will, in most cases, be saved; if the invention has been in part patented, the applicant will be enabled to modify his claims and expectations accordingly. Many other obvious advantages attend the Preliminary Examination; although the strictest search does not always enable the applicant to know positively whether a patent can be had. Applications for patents are often rejected because the Examining-officer finds a description of the alleged invention in some foreign publication; or some other person has been previously rejected on an analogous device; or some other invention for a similar purpose partially resembles the applicant's in its construction; or the Government makes an unjust or uncommon decision. Against none of these contingencies does the Preliminary Examination provide; it will, however, generally inform the applicant whether an improvement similar to his, and used for the same purpose, *has ever been patented or not in this country*.

2. Parties desiring the Preliminary Examination are requested to remit the fee (\$5), and furnish us with a sketch and description of the invention.

3. —

Expense of Applying for a Patent; Rejections, &c., &c.

The Government fee for a patent is, in all cases, except for foreigners, \$30; foreigners who have resided in the United States for one year, and have made oath that they intend to become citizens, are also charged only \$30.

To the foregoing official fees must be added the attorney's fees for preparing the various documents and drawings. Our charge for *preparing a case, presenting it to Government, and attending to all business connected with it, until a decision is given*, is generally \$25; but the charge is higher if unusual labor is involved. If the patent is granted, no further expense ensues. If the application is rejected, we cause a *thorough investigation to be made*, at Washington, into the reasons presented by the Commissioner for refusing the patent. In making this examination we have access to all the drawings, models, books and specifications cited in reference, and we report the result as early as possible to our client. *For this service we make no charge*. If the rejection proves to be an unjust one—which sometimes happens—it can generally be reversed, and the patent obtained by further prosecution. For this prosecution we charge a fee proportionate to the extra labor involved payable on the issue of the Patent; but our demand will be reasonable and satisfactory to our clients, and will be arranged beforehand by special agreement.

WITHDRAWALS.—On rejection, the applicant is entitled to withdraw \$20 from the Patent Office, if he elects to do so in preference to having his case prosecuted further.

GENERAL REMARKS.—For the information of applicants, we would state that some agents are in the habit of charging for the preparation of the case, and, having no further facilities *decline all investigation or prosecution*.

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Where examination is wanted upon more than one invention, \$5 for each must be sent; as each device requires a separate, careful search. Address MUNN & Co., 37 Park Row, N. Y.

OTHER INFORMATION.



If you wish for *general information* as to the rules and law of Infringements, Reissues, Claims, etc., state your inquiries clearly, and remit \$5. Opinions in special cases of Infringement cost more. See page 16.


If you wish for advice in regard to assignments, or upon the rights of parties under assignments, joint ownership in patents, contracts, or licenses, state the points clearly upon which information is wanted, and remit \$5.

If you desire to know in whose name the title to a Patent is officially recorded, at Washington; or if you wish for an abstract of all the deeds of transfer connected with a Patent, send us the name of the patentee, date of patent, etc., and remit \$5.

If you desire a sketch from the drawings of any Patent, and a description from the specification, give the patentee's name, date of the patent, and remit \$5.

If you desire to have an assignment of a Patent, or any share thereof, or a license, made out in the proper manner, and placed on record, give us the full names of the parties, residences, title of the invention, etc., and remit \$5. This includes record fee.

Inventions or shares thereof may be assigned either before or after the grant of a patent. Agreements and contracts in regard to inventions need to be recorded, like assignments, at Washington. For any agreement or contract that you wish prepared, remit \$5.

 Remember that we (MUNN & Co.) have branch-offices in Washington, and have constant access to all the public records. We can therefore make for you *any kind of search*, or look up for you *any sort of information* in regard to Patents, or Inventions, or Applications for Patents, either pending or rejected, that you may desire.

an improvement on some known machine, a full working model of the whole will not be necessary. It should be sufficiently perfect, however, to show, with clearness, the nature and operation of the invention. The proportion of parts, or scale on which a model is made, is a matter of no importance.

As soon as the model is ready, it should be carefully boxed and shipped by express or otherwise, to our address, viz.: MUNN & Co., No. 37 Park Row, New York City. Prepay the expense, and send express receipt to us by mail.

Simultaneously with the model, the inventor should also send us the amount of the Government fee—thirty dollars. The money may be forwarded either by express, with the model, or by mail. The safest way to remit is by draft, on New York, payable to our order. Always send a letter with the model, and also with the remittance, stating the name and address of the sender. We sometimes receive envelopes containing money, but without any name or explanation; models are also frequently sent us, from equally unknown sources.

A full written description should also be sent with the model, embodying *all the ideas of the inventor respecting the improvement.*

On the reception of the model and Government fee, the case is duly registered upon our books, and the application proceeded with as fast as possible. When the documents are ready, we send them to the inventor by mail, for his examination, signature, and affidavit, with a letter of instruction, &c. Our fee for preparing the case is then due, and will be called for.

The average time required to procure a patent, when the case is conducted at our agency, is six weeks. We frequently get them through in less time; but in other cases, owing to delay on the part of the officials, the period is sometimes extended to two or three months, and even more. We make a special point to forward our cases *as rapidly as possible.*

1. Inventors who do business with us will be notified of the state of their application in the Patent Office, when it is possible for us to do so. We do not require the personal attendance of the inventor, unless the invention is one of great complication; the business can as well be done by correspondence.

2. When the invention consists of a new article of manufacture, or a new composition, samples of the separate ingredients sufficient for the purpose of experiment, and also of the manufacturing article itself, must be furnished.

CAVEATS.

3. A CAVEAT is a confidential communication made to the Patent Office, and is therefore filed within its secret archives. The privilege secured under a caveat is, that it entitles the caveator to receive notice, for a period of one year, of any application for a patent subsequently filed, and which is adjudged to be novel, and is likely to interfere with the invention described in the caveat, and the caveator is then required to complete his application for a patent within three months from the date of said notice. Caveat papers should be very carefully prepared. Our fee for this service varies from \$12 to \$15. The Government fee is \$20, and this sum applies when the application is made for a patent. Our fee does not. To enable us to prepare caveat papers, we only require a sketch and description of the invention: no model being necessary.

GOING TO WASHINGTON IN PERSON.

SOME inventors suppose, very naturally, that if personally present in Washington, they can get their cases through more expeditiously, or command other facilities which they cannot enjoy by mere correspondence through an agency like ours. But this is not so. No inventor can possibly have facilities or influence superior

to our own; for more than ONE-THIRD of the entire business of the Patent Office passes through our hands, and we have an office in Washington, charged with the especial duty of watching over and pressing forward the interests of our clients. The Patent Office does not prepare or amend imperfect patent papers, or build models. These must be provided by the applicant or his attorney, according to law, *otherwise his claim will not be considered*. For the convenience of those who visit Washington in person, however, we would state that they can have all their patent business *promptly attended to*, by calling at our BRANCH SCIENTIFIC AMERICAN OFFICE, corner of 7th and F streets, opposite the Patent Office.

INFRINGEMENTS.

THE manufacture, sale, or use, of a patented article, without consent of the owner of the patent, is an *infringement*, and subjects the infringer, by injunction from the Court, to an arrest of or prohibition from the employment of his machinery, shop works, factory and men, in the production of the article. In addition to injunction, the infringer is liable to be mulcted in treble the amount of damages awarded by the jury. The maker, the workman, the seller, and the purchaser if a user, are all liable, either collectively or individually.

The use of a patented device is sometimes an infringement upon a prior patent.

In view of these facts, parties who hold or are working under patents should seek the earliest and best advice, *whenever the question of infringement arises*. Many persons are "penny wise and pound foolish" in such matters. Reluctant in the beginning to expend the small amount needed to employ a reliable counselor to investigate the matter and show them exactly where they stand, some will rush headlong into the most serious difficulties; others will suffer themselves to be pe

MODELS, REMITTANCES, ETC.

PERSONS who apply for patents are by law required to furnish a model, in all cases where the invention can be illustrated or partly illustrated by a model. The model must not exceed twelve inches in any of its dimensions; it should be neatly made, of hard wood or metal, or other substantial material; the name of the inventor should be engraved or painted upon it conspicuously. Where the invention consists of an improvement on some known machine, or part of a machine, a full working model of the whole will not be necessary. It should be sufficiently perfect, however, to show, with clearness, the nature and operation of the invention. More than one patent cannot be taken out on one model.

When the invention consists of a new article of manufacture or a new composition, samples of the article must be furnished.

New medicines or medical compounds, and useful mixtures of all kinds, are patentable. Samples must be furnished, and a very minute statement must be made of the exact proportions and ingredients used.

As soon as the model or specimen is ready, it should be carefully boxed and shipped, by express or otherwise, to our address, namely, MUNN & Co., No. 37 Park Row, New-York City. Prepay the expense, and send the express receipt to us by mail.

Simultaneously with the model or specimens, the inventor should also send us the first instalment of the Government fee and stamps, \$16. The money may be forwarded either by express, with the model, or by mail. The safest way to remit is by draft on New-York, payable to our order, or by Post-Office order. Always send a letter with the model, and also with the remittance, stating the name and

suggestion of a crude idea, the making of an incomplete or inoperative model, the performance of experiments, the marking of sketches, are not, of themselves, conclusive evidence of priority.

As a general observation it may be remarked that "in a race of diligence he is the inventor who first reduces the thing to actual practice." Again, he is the prior inventor who first communicates the new thing so that no further exercise of inventive power is necessary; or so that any person skilled in the art can readily make or apply the improvement.

The taking of evidence in interference cases is a sort of private inquest. It is not necessarily a Court proceeding. Subpœnas cannot be issued nor compulsory process employed to cause parties to testify. The witnesses may be sworn before a Justice of the Peace, Notary, or other person empowered to administer oaths. Each party must notify the other of the time and place when and where he proposes to examine his witnesses, so that the opponent may have opportunity to cross examine. The evidence must be taken down by the magistrate, or under his direction, and by him sealed up and addressed to the Commissioner of Patents. Models, drawings, machines, specimens and exhibits of any kind may be put in evidence. The Commissioner fixes a certain day for the hearing of the case, prior to which the contestants may file arguments upon the merits.

The management of interferences forms a part of the Scientific American patent business. Our terms for attention to interferences are moderate, and dependent upon the time required. Address all letters to MUNN & Co., No. 37 Park Row, New York.

APPEALS.

The law provides for an Appeal from the decisions of the Commissioner of Patents to the U. S. Court of the District of Columbia. These Appeals are heard by any one of the Judges before whom the applicant elects to

bring the case. No jury. All the papers, models, &c., are sent by the Commissioner to the Judge, who then reviews the case, and either sustains or reverses the Commissioner's decision. The party taking the appeal pays an official fee of \$25. The Judge appoints a day of hearing. The applicant can appear in person or by counsel to state his case and file a written argument. Five days are allowed the opponent to put in an answer, and a similar period to the appellant for a closing reply.

Many important cases are brought before the Judges on Appeal, and the decisions of the Commissioner are not unfrequently reversed. We have had successful experience in conducting these appeals, and our services can be retained on moderate terms.

SUGGESTIONS ABOUT FOREIGN PATENTS.

AMERICAN INVENTORS should bear in mind that, as a general rule, any invention which is valuable to the patentee in this country, is worth equally as much in England, and some other foreign countries. Four patents—American, English, French and Belgian—will secure an inventor exclusive monopoly to his discovery, among *one hundred millions* of the most intelligent people in the world. The facilities of business and steam communication are such, that patents can be obtained abroad by our citizens almost as easily as at home. The majority of all patents taken out by Americans in foreign countries are obtained through the SCIENTIFIC AMERICAN PATENT AGENCY. Having established agencies at all the principal European seats of Government, we obtain patents in Great Britain, France, Belgium, Prussia, Austria, Spain, &c., with promptness and despatch. *A Circular, containing further information and a synopsis of the Patent Laws of various countries, will be furnished on application to Messrs. MUNN & Co.*

It is generally much better to apply for foreign patents simultaneously with the application *here*; or if this cannot be conveniently done, as little time as possible should be lost after the patent is issued, as the laws in some foreign countries allow patents to any one who first makes the application, and in this way many inventors are deprived of valid patents for their own inventions. Many valuable inventions are yearly introduced into Europe from the United States, by parties ever on the alert to pick up whatever they can lay their hands upon, which may seem useful.

Models are not required in any European country, but the utmost care and experience is necessary in the preparation of the specifications and drawings.

When parties intend to take out foreign patents, engravings should not be published until the foreign applications have been made.

CAUTION.—It has become a somewhat common practice for agents located in England to send out circulars soliciting the patronage of American inventors; we caution the latter against heeding such applications, or they may otherwise fall into the hands of irresponsible parties, and thus be defrauded of their rights. It is much safer for inventors to entrust their cases to the care of a competent, reliable agent at home.

While it is true of most European countries that the system of examination is not so rigid as that practiced in this country, yet it is vastly important that inventors should have their papers prepared only by the most competent solicitors, in order that they may stand the test of a searching legal examination; as it is a common practice, when a patentee finds a purchaser for his invention, for the latter to cause such examination to be made before he will accept the title.

It is also very unsafe to entrust a useful invention to any other than a solicitor of known integrity and ability. Inventors should beware of speculators, whether in the guise of Patent Agents or Patent Brokers, as they

cannot ordinarily be trusted with valuable inventions.

Messrs. MUNN & Co. have been established *fifteen years* as American and Foreign Patent Attorneys, and Publishers of the *SCIENTIFIC AMERICAN*, and during this time they have been entrusted with some of the most important inventions of the age; and it is a matter of pardonable pride in them to state that not a single case can be adduced in which they have ever betrayed the important trust committed to their care. Their agents in London, Paris, and other Continental cities are among the oldest and most reliable Patent Solicitors in Europe, and they will have no connection with any other.

GENERAL REMARKS.

Messrs. MUNN & Co. have been personally familiar with the progress of invention and discovery during *fifteen years*. As an evidence of the confidence reposed in their ability and integrity, they may with propriety refer to the extraordinary fact that more than **THREE THOUSAND PATENTS** have been issued to their clients in the brief space of only **TWO YEARS**; and during the same period they have examined, through their efficient branch office in Washington, into the novelty of over *four thousand inventions*, thus affording to them a knowledge of the contents of the Patent Office unrivaled by any existing agency. Not only this, but more than one-half of all the patents secured by American citizens in European countries are taken through **MUNN & CO.'S AGENCIES IN LONDON, PARIS, BRUSSELS, BERLIN AND VIENNA.**

During a single month in 1860, *one hundred and forty-four American patents* were issued to our clients.

The convenient proximity of our Washington house to the Patent Office gives us rare facilities for the examination of all the official records, models, drawings, specifications, documents, &c. We can promptly furnish copies of any patent, assignment, &c. Searches made

as to the sale or transfer of rights. Assignments prepared, &c.

In addition to the advantages which the long experience and great success of our firm in obtaining patents present to inventors, they are informed that all inventions patented through our establishment are noticed, at the proper time, in the SCIENTIFIC AMERICAN. This paper is read by more than 100,000 persons every week, and has the most extensive and influential circulation of all the journals of its kind in the world.

We make these statements in order that parties who come to us for aid and information may feel, at the outset, that they are applying to men who are reliable, skillful, and successful in the business.

No individual in the country can possibly have so good an opportunity of knowing and judging as to the extent of business and the qualification of patent attorneys as the *Commissioner of Patents*. This officer is charged with the entire administration of the U. S. Patent Office. All its records are under his keeping and supervision; all correspondence is signed by him; and all patents issued are laid before him for signature. A certificate from a source so high and authentic cannot fail to command general respect and attention. JUDGE MASON, upon retiring from the office of Commissioner of Patents, sent us the following very flattering written testimonial.

Messrs. MUNN & Co. :—I take pleasure in stating that while I held the office of Commissioner of Patents, MORE THAN ONE-FOURTH OF ALL THE BUSINESS OF THE OFFICE CAME THROUGH YOUR HANDS. I have no doubt that the public confidence thus indicated has been fully deserved, as I have always observed, in all your intercourse with the Office, a marked degree of promptness, skill, and fidelity to the interests of your employers.

Yours, very truly, CHAS. MASON.

JUDGE MASON was succeeded by HON. JOSEPH HOLT, one of the most accomplished lawyers in the country, and whose administration of the Patent Office was so distin-

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guished that, upon the death of Gov. BROWN, he was appointed to the office of Postmaster General of the United States. Soon after entering upon his new duties, in March 1859, he addressed us the following very gratifying letter :

" MESSRS. MUNN & Co. :—

It affords me much pleasure to bear testimony to the able and efficient manner in which you discharged your duties as Solicitors of Patents, while I had the honor of holding the office of Commissioner. Your business was very large, and you sustained (and I doubt not justly deserved) the reputation of energy, marked ability and uncompromising fidelity in performing your professional engagements.

Very respectfully, your obedient servant,

J. HOLT."

Hon. Wm. D. Bishop, late Member of Congress from Connecticut, succeeded Mr. Holt as Commissioner of Patents. Upon resigning the office, he wrote to us as follows :—

MESSRS. MUNN & Co. :—It gives me much pleasure to say that, during the time of my holding the office of Commissioner of Patents, a very large proportion of the business of inventors before the Patent Office was transacted through your agency ; and that I have ever found you faithful and devoted to the interests of your clients, as well as eminently qualified to perform the duties of Patent Attorneys with skill and accuracy.

Very respectfully, your obedient servant,

WM. D. BISHOP.

One great reason for our unrivaled success is, that our affairs are so systematized and arranged, under our personal direction, that every patent case submitted to our care receives the most careful study during its preparation, the most prompt despatch when all the patent papers are completed, and the most thorough attention at every stage of its subsequent progress.

We employ, to assist us, the most experienced corps of examiners, specification-writers and draughtsmen, that can be found. We have a branch house at Washington, supervised by one of our partners, and located directly opposite to the Patent Office, for the especial

purpose of attending to the interests of our clients, making searches, examinations, &c. In short, we believe that no other concern can present so great an array of talent, business facilities, influence and practical experience, as that which we throw open to the service of our clients.

All communications should be addressed to MUNN & CO., No. 37 PARK ROW, NEW YORK CITY.

EXTENSION OF PATENTS.

HUNDREDS of valuable patents are annually expiring which might readily be extended, and if extended, might prove the source of wealth to their fortunate possessors.

We are persuaded that very many patents are suffered to expire without any effort at extension, owing to the ignorance of the patentees, their relatives or assigns, as to the current law and the mode of procedure in order to obtain a renewed grant.

The statute of 1836 provides that, when an inventor has failed to receive a sufficient reward for his invention, during the existence of the original patent, he may apply to the Commissioner for an extension of the term; and the Commissioner, on the presentation of proper proofs touching the amounts received by the applicant, the value of the invention, &c., is empowered to extend the patent for seven years, so that it will run for a period of *twenty-one years* from its original date. Some of the most valuable grants now existing are *extended patents*.

The proceedings and papers required for an extension are as follows:

1. Payment of \$40 Government fee into the Treasury.
2. Filing of petition for extension at least ninety days prior to the expiration of the patent.
3. Appointment of the day of hearing and publication of the application for extension in newspapers selected by the Commissioner, etc.
4. Surrender of the existing patent to the Commissioner.
5. Filing of statement by the patentee, in writing, under oath, of the ascertained value of the invention, which his receipts and expenditures in sufficient detail to exhibit the profits and losses arising from the invention.
6. Statements, under oath, of disinterested witnesses, supporting the petition.
7. Reference of the case to an Examining-officer.
8. Report of the Examiner to the Commissioner.

9. Hearing before the Commissioner, at which the arguments by counsel on both sides, for and against the extension, will be heard.

10. Final decision of the Commissioner of Patents.

11. Decree of extension and certificate thereof upon the original patent.

All the documents connected with extensions require to be carefully drawn up and attended to, as any failure, discrepancy, or untruth in the proceedings or papers is liable to defeat the application. Applicants for extensions should always place the management of their cases, from first to last, in the hands of faithful and experienced patent attorneys. Ordinary lawyers or agents, who have had no experience in extension cases, should never undertake them.

The Government fee in extension cases is \$40, as before stated. To this must be added the charges of the attorney who conducts the case, which should be agreed upon beforehand.

In case of the decease of the inventor, his administrator may apply for and receive the extension; but no extension can be applied for or granted to an assignee of an inventor.

Patentees, or, if deceased, their heirs, may apply for the extension of patents, but should give ninety days' notice of their intention.

The inventor or his heirs may arrange to sell the extended term of the patent before the grant thereof, and the purchaser will enjoy the same when issued.

Patents may be extended, and preliminary advice obtained, by consulting or writing to MUNN & Co.

SEARCHES OF THE RECORDS.

HAVING access to all the official records at Washington, pertaining to the sale and transfer of patents, we are at all times ready to make examinations as to titles, ownership or assignments of patents. Fees moderate.

INVITATION TO INVENTORS.

Inventors who come to New York should not fail to pay a visit to the extensive offices of MUNN & Co. They will find a large collection of models of various inventions, which will afford them much interest. The whole establishment is one of great interest to inventors, and is undoubtedly the most spacious and best-arranged in the world.

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THE
SCIENTIFIC AMERICAN.

THIS is a Weekly Journal, full of Illustrations of New Inventions, and useful information for

Inventors, Mechanics & Manufacturers.

It has a very extensive circulation throughout the United States and in foreign countries, and is universally regarded as the most ably edited, and best conducted Journal of the kind in the world. It is the only Journal in this country that publishes a weekly

OFFICIAL LIST OF PATENT CLAIMS,
and the name and residence of every patentee. No inventor or patentee can successfully conduct his inventions without the practical hints derived from the columns of this paper.

A yearly volume of this valuable Journal contains about

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INSTRUCTIONS
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INCLUDING A VARIETY OF USEFUL INFORMATION CONCERNING THE
RULES AND PRACTICE OF THE PATENT-OFFICE; HOW TO SELL
PATENTS; HOW TO SECURE FOREIGN PATENTS; FORMS FOR
ASSIGNMENTS AND LICENSES; TOGETHER WITH EN-
GRAVINGS AND DESCRIPTIONS OF THE CON-
DENSING STEAM-ENGINE, AND THE
PRINCIPAL MECHANICAL MOVE-
MENTS, VALUABLE TABLES,
CALCULATIONS, PROB-
LEMS, ETC., ETC.

BY

MUNN & CO., SOLICITORS OF PATENTS,
No. 37 Park Row, New-York.

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1867.

drawings, to be kept in the office for reference, must be on thick drawing-paper, sufficiently stiff to support itself upright in the portfolios. Tracings upon cloth, pasted upon thick paper, will not be admitted. The other drawing, which is to be attached to the patent, must have a margin of one inch at least for that purpose on the right-hand side, and should be on tracing-muslin, which will bear folding and transportation, and not on paper. The drawings should generally be in perspective, with such detached sectional and plane views as to clearly show what is the invention, its construction and operation. All thick drawings should be colored and shaded, and when different materials are united in a machine, as steel and iron, or wood and metal, the distinction should be indicated by different colors on the drawings. Each part must be distinguished by the same number or letter, whenever that part is delineated in the drawings.

Applicants are advised to employ competent artists to make the drawings, which will be returned if not executed in conformity with these rules. Thick drawings should never be folded for transmission.

Of the Examination.

All cases in the Patent Office are arranged in classes, which are taken up for examination in regular rotation; those in the same class being examined and disposed of, as far as practicable, in the order in which the respective applications are completed. When, however, the applicant has a foreign patent for his invention, or when such invention is deemed of peculiar importance to some branch of the public service, and when, for that reason, the head of some department of the government specially requests immediate action, the case will be taken up out of its order. These, with applications for reissues, are the only exceptions to the rule above stated in relation to the order of examination.

All amendments of the model, drawings, or specification must relate to the subject-matter originally embraced in at least one of them at the time of the filing of the application.

The personal attendance of the applicant at the Patent

Office is unnecessary. The business can be done by correspondence or by attorney.

When an application has been finally decided, the office will retain the original papers, furnishing the applicant copies—if he desires them—at the usual expense.

When a patent is granted, it will be transmitted to the patentee, or to his agent having a full power of attorney authorizing him to receive it.

Protests.

The Patent Office cannot stay the regular proceedings on applications for letters patent in consequence of protests founded upon *ex parte* statements, or upon affidavits from parties claiming to be aggrieved.

Retaining Patents in the Secret Archives.

An application upon which a patent has been allowed may, at the request of the applicant, or of his assignee, made before the patent has been recorded, be retained in the secret archives of the office for a period not exceeding six months from the date of the order to issue

Of Appeals.

After an application for a patent has been twice rejected by the examiner having it in charge, it may, at the option of the applicant, be brought before the board of examiners-in-chief.

For this purpose a petition in writing must be filed, signed by the party or his authorized agent or attorney, setting forth in general terms that the said applicant believes the rejection of his application to have been improper.

All cases which have been acted on by the board of examiners-in-chief may be brought before the Commissioner in person, upon a written request to that effect, and upon the payment of the fee required by law. A decision deliberately made and approved by one Commissioner will not be disturbed by his successor.

[The official fee for an appeal from the Examiners-in-Chief to the Commissioner in person, is \$20. A further ap-

peal may be taken from the decision of the Commissioner to the U. S. Court of the District of Columbia. Official fee, \$25. MUNN & Co. have had much successful experience in conducting these appeals. . Charges moderate.]

The mode of appeal from the decision of the office to the Supreme Court of the District of Columbia is by giving written notice thereof to the Commissioner, filing in the Patent Office, within such time as the Commissioner shall appoint, reasons of appeal, and paying to him the sum of twenty-five dollars.

Of Interferences.

When each of two or more persons claims to be the first inventor of the same thing, an "interference" is declared between them, and a trial is had before the Commissioner. Nor does the fact that one of the parties has already obtained a patent prevent such an interference; for, although the Commissioner has no power to cancel a patent already issued, he may, if he finds that another person was the prior inventor, give him also a patent, and thus place them on an equal footing before the courts and the public.

When an application is found to conflict with a caveat, the caveator is allowed a period of three months within which to present an application, when an interference may be declared.

In cases of interference, patentees have the same remedies by appeal as applicants in pending applications.

In contested cases, whether of interference or of extension, parties may have access to the testimony on file, prior to the hearing, in presence of the officer in charge; or, when practicable, copies may be obtained by them at the usual charges.

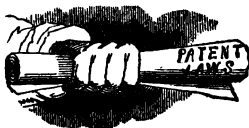
Upon the declaration of an interference, a day will be fixed for closing the testimony, and a further day fixed for the hearing of the cause. The arguments of counsel must be in the office on the day of hearing.

If either party wishes a postponement, either of the day for closing the testimony or of the day of hearing, he must, before the day he thus seeks to postpone is past, show by affidavit a sufficient reason for such postponement.

When an interference has been declared between two or more parties, and testimony has been taken by either of them, it will not be dissolved to admit a subsequent applicant; but when an interference is pending, and a new application claiming the invention in controversy comes into the Office before any ruling shall have been taken, the interference will be dissolved and a new one declared, which shall embrace all the claimants to the same invention.

[The management of Interferences is one of the most important duties in connection with Patent Office business. Our terms for attention to Interferences are moderate, and dependent upon the time required. Address all letters to MUNN & Co., No. 37 Park Row, New-York.]

Of Reissues.



A reissue is granted to the original patentee, his heirs, or the assignees of the entire interest, when by reason of an insufficient or defective specification the original patent is invalid, provided the

error has arisen from inadvertence, accident, or mistake, without any fraudulent or deceptive intention.

An assignee or assignees making application for a reissue must own the entire interest in the patent, and must specify the date of the assignment.

The general rule is, that whatever is really embraced in the original invention, and so described or shown that it might have been embraced in the original patent, may be the subject of a reissue.

Reissued patents expire at the same time that the original patent would have done. For this reason, applications for reissue will be acted upon immediately after they are completed.

A patentee may, at his option, have in his reissue a separate patent for each distinct part of the invention comprehended in his original application, by paying the required fee in each case, and complying with the other requirements of the law, as in original applications.

Each division of a reissue constitutes the subject of a separate specification descriptive of the part or parts of the invention claimed in such division; and the drawing may represent only such part or parts.

One or more divisions of a reissue may be granted, though other divisions shall have been postponed or rejected.

In all cases of applications for reissues, the original claim is subject to reexamination, and may be revised and restricted in the same manner as in original applications.

But in all such cases, after the action of the Patent Office has been made known to the applicant, if he prefers the patent originally granted to that which will be allowed by the decision of the Office, he has the privilege of abandoning the latter and retaining the old patent.

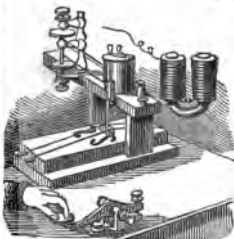
[The documents required for a Reissue are a Statement, Petition, Oath, Specification, Drawings. The official fee is \$30. Our charge, in simple cases, is \$25 for preparing and attending to the case. Total ordinary expense, \$55. Reissues may be applied for by the owners of the patent.

By means of Reissue, a patent may sometimes be divided into several separate patents. Many of the most valuable patents have been several times reissued and subdivided. Where a patent is infringed and the claims are doubtful or defective, it is common to apply for a Reissue with new claims which shall specially meet the infringers.

On making application for Reissue, the old or original patent must be surrendered to the Patent Office, in order that a new patent may be issued in its place. If the original patent has been lost, a certified copy of the patent must be furnished, with affidavit as to the loss. To enable us to prepare a Reissue, the applicant should send to us the original patent, remit as stated, and give a clear statement of the points which he wishes to have corrected. We can then immediately proceed with the case. Address MUNN & Co., 37 Park Row, New-York. We have had great experience in obtaining Reissues.]

Of Disclaimers.

Where, by inadvertence, accident, or mistake, the original patent is too broad, a disclaimer may be filed either by the original patentee or by any of his assignees.

Of Extensions.

The applicant for an extension must file his petition and pay in the requisite fee at least ninety days prior to the expiration of his patent. There is no power in the Patent Office to renew a patent after it has once expired.

The questions which arise on each application for an extension are :

1. Is the invention *novel* ?
2. Is it *useful* ?
3. Is it *valuable* and *important* to the public ?
4. Has the inventor been *adequately remunerated* for his time and expense in originating and perfecting it ?
5. Has he used due diligence in introducing his invention into general use ?

The first two questions will be determined upon the result of an examination in the Patent Office ; as will also the third, to some extent.

To enable the Commissioner to come to a correct conclusion in regard to the third point of inquiry, the applicant should, if possible, procure the testimony of persons disinterested in the invention, which testimony should be taken under oath.

In regard to the fourth and fifth points of inquiry, in addition to his own oath showing his receipts and expenditures on account of the invention, by which its value is to be ascertained, the applicant should show, by the testimony of witnesses on oath, that he has taken all reasonable measures to introduce his invention into general use ; and that, without default or neglect on his part, he has failed to obtain from the use and sale of the invention a reasonable remuneration for the time, ingenuity, and expense bestowed on the same, and the introduction thereof into use.

In case of opposition by any person to the extension of a patent, both parties may take testimony, each giving rea-

sonable notice to the other of the time and place of taking said testimony, which shall be taken according to the rules prescribed by the Commissioner of Patents in cases of interference.

All arguments submitted must be in writing.

[NOTE.—Only patents issued prior to March 4, 1861, can be extended.

Many valuable patents are annually expiring which might readily be extended, and, if extended, might prove the source of wealth to their fortunate possessors.

All the documents connected with extensions require to be carefully drawn up and attended to, as any failure, discrepancy, or untruth in the proceedings or papers is liable to defeat the application.

In case of the decease of the inventor, his administrator may apply for and receive the extension; but no extension can be applied for or granted to an assignee of an inventor. Parties desiring extensions will address MUNN & Co., 37 Park Row, N. Y.]

Of Foreign Patents.

The taking out of a patent in a foreign country does not prejudice a patent previously obtained here; nor does it prevent obtaining a patent here subsequently.

When the patent is granted here, after being obtained abroad, it will extend only seventeen years from the date of the foreign patent.

Of Assignments and Grants.

The assignee of any invention may have the patent issue to him directly; but this is held to apply only to assignees of entire interests.

Although when the inventor assigns his *entire* interest to two or more, a patent will issue to them jointly, still, if he yet retain a portion in himself, a joint patent will not be issued to him and them; the inventor, however, may make himself an assignee of a part interest of his invention.

An inventor can assign his entire right before a patent is obtained, so as to enable the assignee to take out a patent in his own name; but the assignment must first be recorded and the specification sworn to by the inventor.

After a patent is obtained, the patentee may grant the right to make or use the thing patented in any specified portion of the United States.

Every assignment or grant should be recorded within three months from its date ; but if recorded after that time, it will protect the assignee or grantee against any one purchasing after the assignment or grant is placed on record.

When the patent is to issue in the name of the assignee, the entire correspondence should be in his name.

The receipt of assignments is not generally acknowledged by the office. They will be recorded in their turn within a few days after their reception, and then transmitted to persons entitled to them. A five-cent stamp, cancelled, is required on every assignment, and on every oath and every certificate attached thereto.

Form of Assignment of the entire Interest in Letters Patent before obtaining the same, and to be recorded preparatory thereto.

Whereas I, Jethro Wood, of Scipio, in the county of Cayuga, and State of New-York, have invented certain new and useful improvements in ploughs, for which I am about to make application for letters patent of the United States ; and whereas David Peacock, of Burlington, New-Jersey, has agreed to purchase from me all the right, title, and interest which I have, or may have, in and to the said invention, in consequence of the grant of letters patent therefor, and has paid to me, the said Wood, the sum of five thousand dollars, the receipt of which is hereby acknowledged : Now this indenture witnesseth, that, for and in consideration of the said sum to me paid, I have assigned and transferred, and do hereby assign and transfer, to the said David Peacock, the full and exclusive right to all the improvements made by me, as fully set forth and described in the specification which I have prepared and executed preparatory to the obtaining of letters patent therefor. And I do hereby authorize and request the Commissioner of Patents to issue the said letters patent to the said David Peacock, as the assignee of my whole right and title thereto, for the

sole use and behoof of the said David Peacock and his legal representatives.

In testimony whereof, I have hereunto set my hand and affixed my seal this 16th day of February, 1856.

JETHRO WOOD. [SEAL.]

Sealed and delivered in presence of—

GEORGE CLYMER,
DAVID RITTENHOUSE.

Form of a Grant of a Partial Right in a Patent.

Whereas I, Jethro Wood, of Scipio, in the county of Cayuga, and State of New-York, did obtain letters patent of the United States for certain improvements in ploughs, which letters patent bear date the 1st day of March, 1855; and whereas David Peacock, of Burlington, New-Jersey, is desirous of acquiring an interest therein: Now this indenture witnesseth, that for and in consideration of the sum of two thousand dollars, to me in hand paid, the receipt of which is hereby acknowledged, I have granted, sold, and set over, and do hereby grant, sell, and set over, unto the said David Peacock, all the right, title, and interest which I have in the said invention, as secured to me by said letters patent, for, to, and in the several States of New-York, New-Jersey, and Pennsylvania, and in no other place or places; the same to be held and enjoyed by the said David Peacock, for his own use and behoof, and for the use and behoof of his legal representatives, to the full end of the term for which said letters patent are granted, (if it is intended to grant for any extended term, then add—and for the term of any extension thereof,) as fully and entirely as the same would have been held and enjoyed by me had this grant and sale not been made.

In testimony whereof, I hereunto set my hand and affix my seal this sixteenth day of February, 1856.

JETHRO WOOD. [SEAL.]

Sealed and delivered in presence of—

JACOB PERKINS,
BENJAMIN FRANKLIN.

[Records of the title or ownership in patents are kept at Washington. Persons who wish to have searches made should address MUNN & Co., 37 Park Row. See "Other Information," page 7.]

Stamps.

Revenue stamps must be attached as follows :

A stamp of the value of *fifty cents* is required upon each power of attorney authorizing an attorney or agent to transact business with this office relative to an application for a patent.

No assignment directing a patent to issue to an assignee or assignees will be recognized by the Patent Office unless every sheet or piece of paper upon which such an assignment shall be written shall have affixed thereto a stamp of the value of *five cents*.

A stamp of the value of five cents is required upon each certificate of a magistrate.

Rules of Correspondence.

All correspondence must be in the name of the Commissioner of Patents ; and all letters and other communications intended for the office must be addressed to him. If addressed to any of the other officers, they will not be noticed, unless it should be seen that the mistake was owing to inadvertence. A separate letter should in every case be written in relation to each distinct subject of inquiry or application, the subject of the invention and the date of filing being always carefully noted.

When an agent has filed his power of attorney, duly executed, the correspondence will, in ordinary cases, be held with him only. A double correspondence with him and his principal, if generally allowed, would largely enhance the labor of the office. For the same reason, the assignee of the entire interest in an invention is alone entitled to hold correspondence with the Office, to the exclusion of the inventor. If the principal becomes dissatisfied, he must revoke his power of attorney, and notify the Office, which will then communicate with him.

Of the Filing and Preservation of Papers.

All claims and specifications filed in the office (including amendments) must be written in a fair, legible hand, without interlineations or erasures, except such as are clearly stated in a marginal or foot-note written on the same sheet of paper; or, failing in which, the office may require them to be printed.

All papers filed in the office will be regarded as permanent records of the office, and must never, on any account, be changed, further than to correct mere clerical mistakes.

Of giving or withholding Information.

Aside from the caveats, which are required by law to be kept secret, all pending applications are, as far as practicable, preserved in like secrecy. No information will therefore be given those inquiring whether any particular case is before the office, or whether any particular person has applied for a patent.

But if a party whose application has been rejected allows the matter to rest for two years without taking any further steps therein, he will be regarded as having abandoned his application, so far at least that it will no longer be protected by any rule of secrecy. The specification, drawings, and model will then be subject to inspection in the same manner as those of patented or withdrawn applications.

Information in relation to pending cases is given so far as it becomes necessary in conducting the business of the Office, but no further. Thus, when an interference is declared between two pending applications, each of the contestants is entitled to a knowledge of so much of his antagonist's case as to enable him to conduct his own understandingly.


Where the rejection of an application is founded upon another case previously rejected, but not withdrawn or abandoned, the rejected applicant will be furnished with all information in relation to the previously rejected case which is necessary for the proper understanding and management of his own.

When an applicant claims a certain device, and the same device is found *described* but not *claimed* in another pending application which was previously filed, information of the

filing of such second application is always given to the prior applicant, with a suggestion that if he desires to claim a patent for that device, he should forthwith modify his specification accordingly.

But where the application, which thus describes a device without claiming it, is subsequent in date to that wherein such device is claimed, the general rule is, that no notice of the claim in the previous application is given to the subsequent applicant. But where there are any special reasons to doubt whether the prior applicant is really the inventor of the device claimed, or where there are any other peculiar and sufficient reasons for departing from the rule above stated, the Office reserves to itself the right of so doing without its being regarded as a departure from the established rule.

The Office cannot respond to inquiries as to the novelty of an alleged invention, in advance of an application for a patent, nor to inquiries founded upon brief and imperfect descriptions propounded with a view of ascertaining whether such alleged improvements have been patented, and if so, to whom; nor can it act as an expounder of the patent law, nor as counsellor for individuals.

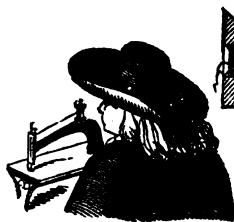
 The reader will bear in mind that the foregoing are the official rules for doing business at the Patent Office.

Inquiries as to the novelty of inventions may be addressed to MUNN & Co., 37 Park Row, N. Y. See pages 5 and 6.

Base all your actions upon a principle of right; preserve your integrity of character, and in doing this never reckon on the cost.

THE world estimates men by their success in life, and, by general consent, success is evidence of superiority.

Arsenic volatilizes before it fuses, and antimony melts a little below redness. Professor Draper thinks he has shown that all substances become red at the same point—1003 degrees Fahrenheit.

MODELS.

It is always better for inventors to have their models constructed under their own supervision, even at an increased cost in money or time. During the making of the model, the inventor often perceives points where important changes can be made, or where the invention may be rendered more perfect than was at first con-

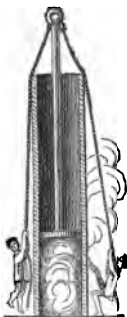
templated. But in some instances, owing to residence in distant parts or other causes, it is impossible for the inventor to furnish a model. In such cases, we (Munn & Co.) can have proper models built by experienced and trusty makers, at moderate charges.

TRACING PAPER.

OPEN a quire of double crown tissue-paper, and brush the first sheet with a mixture of mastic varnish and oil of turpentine, equal parts; proceed with each sheet similarly, and dry them on lines by hanging them up singly. As the process goes on, the under sheets absorb a portion of the varnish, and require less than if single sheets were brushed separately. The inventor of this varnish for tracing-paper received a medal and premium from the Royal Society. It leaves the paper quite light and transparent, it may readily be written on, and drawings traced with a pen are permanently visible. Used by learners to draw out lines. The paper is placed on the drawing, which is clearly seen, and an outline is made, taking care to hold the tracing-paper steady. In this way, elaborate drawings are easily copied.

ALCOHOL has more than double the expansive force of water of the same temperature. The steam of alcohol at 174° is equal to that of water at 212° . When proper means can be invented for saving the fluid from being lost, it is supposed that alcohol can be employed with advantage as the moving power for engines.

VOICE OF THE PEOPLE.



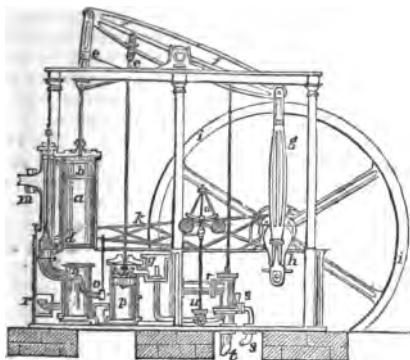
WE might fill several volumes with flattering testimonials from all parts of the world, certifying to the great value of *THE SCIENTIFIC AMERICAN*, but the limits of this little book only permit us to make a few selections. Read the following :

MESSRS. EDITORS : Since I had the pleasure of receiving the back numbers of your interesting and instructive journal, I have shown specimens to several influential manufacturers and intelligent mechanics in this vicinity. One man told me that he had *twice* obtained five dollars for a *single* *recipe* that he copied out of *THE SCIENTIFIC AMERICAN*, which he has taken regularly for several years ; and I presume this is not an isolated case, by many hundreds. It is just such journals as yours that are annually condensed into encyclopedias, the compilers of which roughly scoop off the cream of all the new discoveries in science and art that have been recorded in the columns of various periodicals during the year ; but the facts set forth in such annual works are often so mutilated or distorted in the condensation, and so meagre in outline, as to be practically of no value. Every mechanic and farmer in the land should subscribe for *THE SCIENTIFIC AMERICAN*, not only for his own benefit, but also that of his children ; he may have a Franklin or a Fulton, a West or a Watt, in that little marble-player whom he pets in his leisure hours ; and the natural bias of the child's mind toward mechanical or agricultural pursuits requires to be confirmed or further developed by intellectual nourishment of such a quality and quantity as can be derived only from a journal like your own.

Never make money at the expense of your reputation.
Say but little—think much and do more.
Avoid borrowing and lending.

THE STEAM-ENGINE.

EVERY mechanic and inventor should make himself generally familiar with the construction and operation of the steam-engine. To assist them in gaining this knowledge, we subjoin for reference a diagram of the common Condensing Engine, with letters of reference to the names of the various parts :



a, steam cylinder ; *b*, piston ; *c*, upper steam port or passage ; *d*, lower steam port ; *e e*, parallel motion ; *f f*, beam ; *g*, connecting rod ; *h*, crank ; *i i*, fly-wheel ; *k k*, eccentric and its rod for working the steam-valve ; *l*, steam-valve and casing ; *m*, throttle-valve ; *n*, condenser ; *o*, injection-cock ; *p*, air-pump ; *q*, hot well ; *r*, shifting-valve to create vacuum in condenser previous to starting the engine ; *s*, feed-pump to supply boilers ; *t*, cold-water pump to supply condenser ; *u*, governor. A study of the above diagram and description, in connection with attentive observation of engines in motion, will be of much assistance in acquiring a general understanding of the machine. We recommend the follow-

ing standard works for careful study by all who desire to become thoroughly posted: Bourne's Catechism of the Steam-Engine, Main & Brown's Marine Steam-Engine.

[From The Scientific American.]

A HINT TO LETTER-WRITING BORES.



Consider, as a general thing, that our correspondents are a fair and high-minded set of men, such as we are most happy to accommodate by answering, so far as it is in our power, all their inquiries; but there are a few of whom we can very justly complain. They put to us all sorts of questions, to answer which might require a half-day of our valuable time; and if we snub them off with a short answer, they are likely to reply back in complaining terms. It cannot be reasonably expected of us, that we shall spend our time in such—to us—profitless letter-writing. We mean to be accommodating, but cannot consent to waste all our time in getting information for correspondents who seem not to know how to appreciate either our forbearance or the value of our time. As an example of what we mean, we have a case before us. A correspondent wants us to hunt through our files for a notice of some book which appeared in THE SCIENTIFIC AMERICAN some years ago, and to help him to find the book. He also wants us to find for him an English book which we do not believe can be had in this market. Another correspondent wants us to send to England without delay to get something which would require time and money to procure for him, but in regard to which he don't even inclose a three-cent stamp to pre-pay our letter. Another incloses three cents, and wants a calculation made which would cost us two hours' hard study. It is well enough for such correspondents to know that our time is worth to us more than a cent and a half per hour. Treat us fairly, and you will have no cause of complaint.

VOICE OF THE PRESS.



In examining the pages of our journal, we find them so covered with brilliant gems of commendation that it is difficult to select one which is more sparkling than another. We therefore take the following at random:

"The distinction achieved by the world-renowned

firm of Munn & Co., as Solicitors of Patents, is alike *deserved* and commanding—deserved, because they have spared no effort nor expense since they entered upon their responsible vocation—commanding, because it is a distinction supported and upheld by all the scientific appliances within the reach of modern enterprise, and carries along with it a *prestige* which we in vain look for in the history of any similar firm. To the scores of inventors who are to be met with in this State—and especially to those among them whose diffidence may have hitherto restrained them from giving their discoveries to the world—we would say, by all means consult the firm of Messrs. Munn & Co., 37 Park Row, New-York, confident, as we feel, that by so doing (should your inventions possess merit) you will not only put yourself in the way of securing a patent for the same, but at the same time reap the satisfaction of knowing that you have committed your claims to hands emphatically qualified successfully to carry them out. We have deemed it a *duty*, in this mode, to 'say our say' in regard to an Agency which, while, we trust, it has been able to make its highly important business *pay*, has, at the same time, nobly upheld the true principles of scientific investigation, scorning to make the latter in the least degree subservient to merely pecuniary considerations."—*Rahway (N. J.) Times and Register*.

A CUBIC foot of air weighs 523 grains—a little more than an ounce. A cubic foot of water weighs 1000 ounces.

FOREIGN PATENTS.



AMERICAN INVENTORS should bear in mind that, as a general rule, any invention which is valuable to the patentee in this country, is worth equally as much in England and some other foreign countries. Four patents—American, English, French, and Belgian—will secure an inventor exclusive monopoly to his discovery among *one hundred millions* of the most intelligent people in the world. The facilities of busi-

ness and steam communication are such, that patents can be obtained abroad by our citizens almost as easily as at home.

Models are not required in any European country, but the utmost care and experience is necessary in the preparation of the specifications and drawings. A variety of small tax duties and other fees must be paid; many official formalities are also to be observed in obtaining foreign patents. It is therefore important that the applicant should place his business in the hands of established and reliable agents.

For the past twenty years, the majority of all patents taken out by Americans in foreign countries have been obtained through MUNN & Co.'s SCIENTIFIC AMERICAN PATENT AGENCY, and nearly all of this foreign patent business is still done by us. Our experience and success in this branch is very great.

The following summary will give a general idea of the expenses and duration of European Patents:

Great Britain.—Patents are granted for fourteen years to any person who is the inventor or the first importer. If a patent has been previously obtained in any other country, the British patent expires with it. The British patent extends over Great Britain and Ireland, but does not include

the Colonies. Separate patents are issued by the Colonies. The cost of a British patent is generally about \$350, of which \$100, for Provisional Protection, are payable at the time of making application, and the remainder in four months. Three years from the date of the patent a further sum of £50 must be paid, and a final sum of £100 at the end of seven years.

British Patents for designs, having reference to articles of utility, intended to protect the shape or configuration of the article, are granted for three years; expense, \$100.

France.—Term of the patent, fifteen years. Annual fees, \$20. Total expenses of obtaining, about \$150.

Belgium.—Term of the patent, twenty years. Small annual fees. Expense of obtaining, about \$150.

EXPENSE OF FOREIGN PATENTS — INCLUSIVE OF ALL FEES.

Austria,	\$250	Italy,	\$200
Australia,	250	Kingdom Two Sicilies,	200
Bavaria,	150	Netherlands,	150
Belgium,	150	Poland,	150
Cuba,	250	Portugal,	150
Dutch West-Indies,	250	Prussia,	200
France,	150	Russia,	500
Great Britain,	350	Saxony,	100
Holland,	150	Spain,	400
India,	400	Sweden,	300

Parties intending to secure patents abroad will please address **MUNN & Co.**, 37 Park Row, New-York, and obtain their *pamphlet* (free) relating exclusively to Foreign Patents.

CAUTION.—Pay no attention to the solicitation of foreign agents of unknown responsibility, who send circulars to parties whose names they copy from the patent lists of **THE SCIENTIFIC AMERICAN**.

CLEAR, dry, cold air contains more oxygen, is more bracing to the human system, and is heavier than moist air. People are accustomed to say that the air on damp days feels heavy; but the truth is, the air is lighter, and therefore the blood is less oxydized, and the feelings consequently depressed.

HOW TO SELL PATENTS.



In the prefatory portion of this little work, we have presented hints upon the general success of inventors, and the great value of even the simplest inventions. But it must not be supposed, because a patent is granted, that the world will run after an unknown man to buy from him an unknown patent. In order to sell a patent, judicious effort is required on the part of the inventor or his agent. Indeed, his final success will depend, to a considerable extent, upon his business tact and energy. He should make himself thoroughly conversant with the merits of his invention, and should prepare specimens or model machines thereof, made in the most perfect manner, so as readily to exhibit the operations of the improvement to others.

After obtaining a patent, the first grand requisite in effecting its sale is to make the merits and importance of the improvement *publicly known*. This may be done in various ways: by advertisements in newspapers, by cards, circulars, pamphlets, etc., by local and travelling agents. Some persons appoint agents in each town or county, giving them a liberal portion of the net proceeds for the sale of rights, or a handsome per cent upon the receipts for machines sold. In estimating the value of patent rights for different States, counties, etc., one very common method is to fix the price with reference to the amount of population.

One of the most comprehensive and powerful methods of bringing the merits of an invention before the public, is to have it noticed and engraved in *THE SCIENTIFIC AMERICAN*. This paper, published weekly, has a large circulation. It is seen by probably not less than one or two hundred thousand readers, who comprise all of the most intelligent persons of scientific and mechanical acquirements in the country. The fact of publication in *THE SCIENTIFIC AMER-*

ICAN is a passport to their attention and favor. It is upon the judgment and advice of scientific and mechanical persons that the purchasers of patent rights and new inventions are apt to rely. "Yes, that is a good invention. It has been well illustrated in THE SCIENTIFIC AMERICAN, and I fully understand its construction. I advise you to purchase the right." We suppose that more patents are sold upon such advice than by all other agencies and means put together.

To assist the sale, it is always advisable to have the patent taken out through the SCIENTIFIC AMERICAN AGENCY. The study necessary to the preparation of the specification and drawings familiarizes our minds with the merits of the invention, and as all worthy inventions patented by us are noticed in THE SCIENTIFIC AMERICAN, we are enabled to speak of them with some degree of authority.

We keep artists constantly employed in preparing engravings for THE SCIENTIFIC AMERICAN. All our engravings are original. We never print old cuts. Parties who desire to have engravings inserted in THE SCIENTIFIC AMERICAN will please address MUNN & Co., 37 Park Row, New-York. After publication, the engravings will be returned to the owner, who can then use them for other papers, circulars, etc.

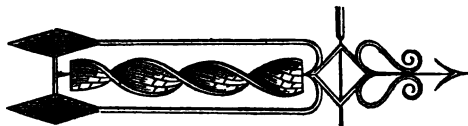
AGENTS TO SELL.

We are often asked to give the names of parties who make it a business to sell patents. We are rarely enabled to do so. Such concerns are generally quite fugitive in their character. An office is opened, signs displayed, a few customers engaged, and then suddenly the shop is closed. The truth is, that the profit upon the sales of a single good patent is equivalent to a fortune, and the business it furnishes is enough to fully engage the attention of many persons. Our advice to patentees is: Take hold of the business of selling yourselves. If you want assistance, search for agents among your friends, and interest them specially in your invention.

self, or give it to the world without price? The business man would say the former; because if notoriety be the object, great patents confer not only means, but distinction, and where the first is attained, the second follows.

[From The Scientific American.]

A SPARKLING VANE.



A VERY curious and elegant vane for buildings may be made by placing in the centre a spiral or twisted spindle, as shown in the above cut. This spindle should be hung on delicate pivots, and the spaces between the spiral flanches nearly covered with small pieces of looking-glass or thin pieces of mica. The least breeze will put it in motion, and as the reflectors will assume every possible position, several of them will be sure to present the reflection of the sun at every revolution, from whatever point it may be viewed, thus producing a constant and very brilliant sparkling.

ELECTRICAL CONDUCTING POWER OF METALS.

THE effect of the electrical discharge on metallic bodies is to raise their temperature to a less or greater degree, according to their conducting power. The best conductors are silver and copper; the poorest, lead; as will be seen from the subjoined table:

	Heat evolved.	Conducting Power.
Silver,.....	6.....	120
Copper,.....	6.....	120
Gold,.....	9.....	80
Zinc,.....	18.....	40
Platinum,.....	30.....	24
Iron,.....	30.....	24
Tin,.....	36.....	20
Lead,.....	72.....	12

[From The Scientific American.]

IMPORTANT TO INVENTORS.

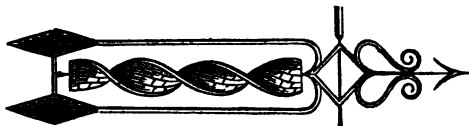
THE United States Patent Office at Washington contains nearly 50,000 models pertaining to patented inventions, all of which are open to public inspection and examination, together with the drawings and specifications relating thereto. But the distance of the Capital and the time and expense involved in a journey thither deter, in fact, the majority of inventors from reaping the advantages which a personal examination of previously patented inventions might oftentimes give them. To obviate this difficulty we (Munn & Co.) are in the habit of making these examinations at the Patent Office for inventors. When it is desired to ascertain definitely whether an invention, believed to be new, has been previously made, or to what extent, if any, it has been anticipated, the applicant sends to us a rough sketch and description of the device. We then make a thorough examination in the Patent Office at Washington, and report the result to the applicant. The charge for this service is only \$5, and it is frequently the means of saving the applicant the entire expense of preparing a model, paying Government fees, etc., by revealing the fact that the whole or material portion of his improvement was previously known. This preliminary examination is sometimes also of importance in assisting to properly prepare the papers, so as to avoid conflicting with other inventions in the same class. The reader should carefully note the distinction made between this preliminary examination at the Patent Office and the examination and opinion given at our office, either orally or by letter, for which no fee is expected. It is only when a special search is made at the Patent Office that the fee of \$5 is required. We are able, in a vast number of cases submitted to us, to decide the question of patentability without this special search. See page 6 of this little work.

WHEN the air is exhausted from a pump-tube, (usually done by means of a piston,) the pressure of the atmosphere will cause the water to rise in the tube to a height of thirty feet.

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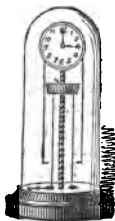
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Copper,.....	6.....	120
Gold,.....	9.....	80
Zinc,.....	18.....	40
Platinum,.....	80.....	24
Iron,.....	80.....	24
Tin,.....	86.....	20
Lead,.....	72.....	12

[From The Scientific American.]

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"THE SCIENTIFIC AMERICAN.—We are sure that if a few words of seasonable commendation should induce any of that large class of intelligent readers who can appreciate true merit, to subscribe for this excellent publication, we shall be abundantly rewarded in the conviction of having earned their gratitude. It is only recently that we have looked into its columns with any degree of regularity, and we take an early opportunity to express the extreme satisfaction and interest

which we have experienced in doing so. To condense our idea of its most valuable characteristic into one sentence, we consider THE SCIENTIFIC AMERICAN as embodying the highest function of all science, namely, its application to the practical, every-day concerns of life, in clear, pure, agreeable language. It will prove a pleasant guest and a useful companion at any fireside it may enter."—*Watchman, Greenport, L. I.*

THE SCIENTIFIC AMERICAN ought to be taken, read, and studied by every intelligent man, young or old, worker or idler, rich or poor, in the country. It commends itself to every one, and is useful and interesting to all. The most scientific may learn from it, and the unscientific understand it. It has a peculiar charm about it that interests and affects every person with a grain of sense in his head. We are in the habit of sending our copy, after a thorough perusal, to the army, and the friend who receives it writes us, that he likes it better than any other paper; that it is longingly waited for, and eagerly read by his comrades, and never ceases its circulation until so blithely that its columns are no longer readable.—*Westchester County Journal.*

Remember that, by subscribing to THE SCIENTIFIC AMERICAN, you receive, in the course of the year, an amount of reading matter nearly equal to *four thousand ordinary book pages.*

THE light of lightning and its reflections, will penetrate from 150 to 200 miles.

HORSE-POWER.

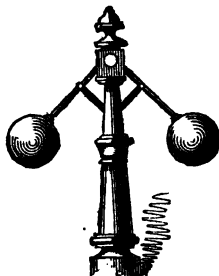
WHEN Watt began to introduce his steam-engines he wished to be able to state their power as compared with that of horses, which were then generally employed for driving mills. He accordingly made a series of experiments, which led him to the conclusion that the average power of a horse was sufficient to raise about 33,000 lbs. one foot in vertical height per minute, and this has been adopted in England and this country as the general measure of power.

A waterfall has one horse-power for every 33,000 lbs. of water flowing in the stream per minute, for each foot of fall. To compute the power of a stream, therefore, multiply the area of its cross section in feet by the velocity in feet per minute, and we have the number of cubic feet flowing along the stream per minute. Multiply this by $62\frac{1}{2}$, the number of pounds in a cubic foot of water, and this by the vertical fall in feet, and we have the foot-pounds per minute of the fall; dividing by 33,000 gives us the horse-power.

For example: A stream flows through a flume 10 feet wide, and the depth of the water is 4 feet; the area of the cross section will be 40 feet. The velocity is 150 feet per minute— $40 \times 150 = 6000$ —the cubic feet of water flowing per minute. $6000 \times 62\frac{1}{2} = 375,000$ —the pounds of water flowing per minute. The fall is 10 feet; $10 \times 375,000 = 3,750,000$ —the foot-pounds of the water-fall. Divide 3,750,000 by 33,000, and we have $113\frac{1}{3}$ as the horse-power of the fall.

The power of a steam-engine is calculated by multiplying together the area of the piston in inches, the mean pressure in pounds per square inch, the length of the stroke in feet, and the number of strokes per minute; and dividing by 33,000.

Water-wheels yield from 50 to 91 per cent of the water. The actual power of a steam-engine is less than the indicated power, owing to a loss from friction; the amount of this loss varies with the arrangement of the engine and the perfection of the workmanship.

ZUR BEACHTUNG FÜR DEUTSCHE ER-
FINDER.

Die Unterzeichneten haben eine Anleitung herausgegeben, welche anzeigt was zu befolgen ist um ein Patent zu sichern, und selbige wird auf portofreie Anfrage gratis abgegeben.

Nach dem neuen Patent-Gesetze können Bürger aller Länder, mit einer einzigen Ausnahme, Patente in den Vereinigten Staaten zu denselben Bedingungen erlangen, wie die Bürger der Vereinigten Staaten selbst.

Munn & Co.,

No. 37 Park Row, New-York.
Scientific American Office.

SOMETHING TO BE REMEMBERED.

AMERICAN Patents, granted to foreigners, become invalid, if the patent is not put and continued on sale, on reasonable terms, within eighteen months from the date of the patent. Law of 1836, section 15, page 61.

HEAT-CONDUCTING POWER OF DIFFER-
ENT BODIES.

Gold,.....	1000	Tin,.....	874
Platinum,.....	981	Lead,.....	180
Silver,.....	978	Marble,.....	94
Copper,.....	898	Porcelain,.....	12
Iron,.....	874	Fire Clay,.....	11
Zinc,.....	868	Fire Brick,.....	11

RELATIVE CONDUCTING POWER OF
FLUIDS.

Mercury,.....	1000	Proof Spirit,.....	812
Water,.....	857	Alcohol, (pure,).....	282

[From the Scientific American.]

FIELD FOR CHEMICAL INVENTION.

LESS than five per cent of all the patents issued are for chemical inventions. The first impression which this fact leaves is that the chemists are not so wide awake as the mechanics. And it seems, too, as if the chemists have the best chance, for they have the range of all the combinations, almost infinite in number, of all the sixty or more simple substances or elements, while the mechanic is limited in all his inventions to the use of only five mechanical elements. But this course of reasoning is a little unfair for the chemist, if we wish to determine his real merit as a benefactor of mankind. Thus far the introduction of new substances has been too slow and too much the result of chance. Illuminating gas was known as a chemical product for centuries before any use of it was made; iodine, chromine, chloroform, aniline, and a hundred other things, now common, were for a very long time only rare specimens on the shelves of the chemist's curiosity-shop, before they were found to be of the greatest value to men, and we cannot have a doubt that much more of the same kind of wealth is soon to be developed. May we not reasonably expect that virtues may be discovered in things now neglected, which will directly lead to the invention of arts more wonderful and more useful than photography or electro-telegraphing?

A correspondent, writing from Buffalo, says, in speaking of the value of THE SCIENTIFIC AMERICAN to its host of readers: "I would as soon think of going without supper on Thursday night as to neglect to call at the book-store for the *Paper of papers*; and I am proud to say that I have influenced many others to 'go and do likewise.' I have my volumes complete and nicely bound from volume five; and should poverty ever compel me to sell my library, my *Bible* and my SCIENTIFIC AMERICAN should remain to grace the otherwise empty shelves."

A WORD TO INQUIRERS.



WE frequently receive letters containing long strings of trifling questions, relative to all sorts of things, without any fee to pay us for our time in obtaining the information, nor even stamps for postage or stationery. Many of these correspondents close their letters with the comforting assurance that "I would remit for your trouble, but do not know how much to send." To relieve the consciences of all such doubters, we would recommend them to send a dollar or more, according to the value to them of the desired information. If the latter is of no value, they ought not to trouble us with their fly-tracks.


To certain other classes of inquirers the following hints may be useful: The best washing-machines, the best **straw**-cutters, the best churns, the best brick-machines, the **best** engines, the best sewing-machines, the best of every thing in the mechanical line, is advertised and illustrated in **THE SCIENTIFIC AMERICAN**, and the address of the parties having such things on sale is there given. Write directly to them for the information you want, and spare us. If you cannot at first find what you desire, read the back numbers of **THE SCIENTIFIC AMERICAN**. Do not expect us to do the work for you unless you send a small remittance.

To find the area of an ellipsis, multiply the **long** diameter by the short diameter and by .7854; the product will be the area.

Never relate your misfortunes, and never grieve over what you cannot prevent.

To find the area of a circle, multiply the square of the diameter by the decimal .7854. Or multiply the circumference by the radius, and divide the product by 2.

THE
PATENT LAWS
OF THE
UNITED STATES OF AMERICA.

 THE following are the existing Laws under which American Patents are granted and supported by the courts.

To save space we omit such portions as have been repealed, or that relate to salaries of officials, and other unimportant details not pertaining to patents.

PATENT LAW OF 1836.

AN ACT to promote the progress of Useful Arts, and to repeal all acts and parts of acts heretofore made for that purpose.

ESTABLISHMENT OF THE PATENT OFFICE.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled: That there shall be established and attached to the Department of State,* an office, to be denominated the Patent Office, the chief officer of which shall be called the Commissioner of Patents, to be appointed by the President, by and with the advice and consent of the Senate, whose duty it shall be, under the direction of the Secretary of State, to superintend, execute, and perform all such acts and things touching and respecting the granting and issuing of patents for new and useful discoveries, inventions, and improvements,

* Now attached to Department of Interior.

as are herein provided for, or shall hereafter be, by law, directed to be done and performed, and shall have charge and custody of all the books, records, papers, models, and machines, and all other things belonging to said office, * * * and shall be entitled to send and receive letters and packages by mail, relating to the business of the office, free of postage.

SEC. 2. [Relates to the appointment of clerks and other officials.]

PATENT OFFICE EMPLOYEES MUST NOT BE INTERESTED IN PATENTS.

* * * And said Commissioner, clerks, and every other person appointed and employed in said office, shall be disqualified and interdicted from acquiring or taking, except by inheritance, during the period for which they shall hold their appointments respectively, any right or interest, directly or indirectly, in any patent for an invention or discovery which has been, or may hereafter be, granted.

SEC. 3. [Relates to oaths and sureties of clerks.]

SEAL OF OFFICE, COPYING, ETC.

SEC. 4. *And be it further enacted*, That the said Commissioner shall cause a seal to be made and provided for the said office, with such devices as the President of the United States shall approve; and copies of any records, books, papers, or drawings, belonging to the said office, under the signature of the said Commissioner, or, when the office shall be vacant, under the signature of the chief clerk, with the said seal affixed, shall be competent evidence in all cases in which the original records, books, papers, or drawings could be evidence. And any person making application therefor may have certified copies of the records, drawings, and other papers deposited in said office, on paying for the written copies the sum of ten cents for every page of one hundred words; and for copies of drawings, the reasonable expenses of making the same.

RECORD OF PATENTS, ETC.

SEC. 5. *And be it further enacted*, That all patents issued from said office shall be issued in the name of the

United States, and under the seal of said office, and be signed by the Secretary of State,* and countersigned by the Commissioner of said office, and shall be recorded, together with the descriptions, specifications, and drawings, in the said office, in books to be kept for that purpose. Every such patent shall contain a short description or title of the invention or discovery, correctly indicating its nature and design, and in its terms grant to the applicant or applicants, his or their heirs, administrators, executors, or assigns, for a term not exceeding fourteen years, [changed to seventeen years,] the full and exclusive right and liberty of making, using, and vending to others to be used, the said invention or discovery, referring to the specifications for the particulars thereof, a copy of which shall be annexed to the patent, specifying what the patentee claims as his invention or discovery.

WHO MAY OBTAIN PATENTS, AND HOW.

SEC. 6. *And be it further enacted*, That any person or persons having discovered or invented any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement on any art, machine, manufacture, or composition of matter, not known or used by others before his or their discovery or invention thereof, and not at the time of his application for a patent in public use or on sale, with his consent or allowance, as the inventor or discoverer, and shall desire to obtain an exclusive property therein, may make application, in writing, to the Commissioner of Patents, expressing such desire; and the Commissioner, on due proceedings had, may grant a patent therefor. But before any inventor shall receive a patent for any such new invention or discovery, he shall deliver a written description of his invention or discovery, and of the manner and process of making, constructing, using, and compounding the same, in such full clear, and exact terms, avoiding unnecessary prolixity, as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same; and in case of

* Secretary of the Interior. See Section Law of 1849, page 72.

any machine, he shall fully explain the principle, and the several modes in which he has contemplated the application of that principle or character by which it may be distinguished from other inventions; and shall particularly specify and point out the part, improvement, or combination which he claims as his own invention or discovery. He shall, furthermore, accompany the whole with a drawing or drawings, and written references, where the nature of the case admits of drawings; or with specimens of ingredients, and of the composition of matter, sufficient in quantity for the purpose of experiment, where the invention or discovery is of a composition of matter; which descriptions and drawings, signed by the inventor, and attested by two witnesses, shall be filed in the Patent Office; and he shall, moreover, furnish a model of his invention, in all cases which admit of a representation by model, of a convenient size to exhibit advantageously its several parts. The applicant shall make oath or affirmation that he does verily believe that he is the original and first inventor or discoverer of the art, machine, composition, or improvement for which he solicits a patent; and that he does not know or believe that the same was ever before known or used; and also of what country he is a citizen; which oath or affirmation may be made before any person authorized by law to administer oaths.

OFFICIAL EXAMINATIONS.

SEC. 7. *And be it further enacted*, That on the filing of any such application, description, and specification, and the payment of the duty hereinafter provided,* the Commissioner shall make, or cause to be made, an examination of the alleged new invention or discovery; and if, on any such examination, it shall not appear to the Commissioner that the same had been invented or discovered by any other person in this country, prior to the alleged invention or discovery thereof by the applicant, or that it had been patented or described in any printed publication in this or any foreign country, or had been in public use or on sale, with the ap-

* See Section 10, page 76.

plicant's consent or allowance, prior to the application, if the Commissioner shall deem it to be sufficiently useful and important, it shall be his duty to issue a patent therefor. But whenever, on such examination, it shall appear to the Commissioner that the applicant was not the original and first inventor or discoverer thereof, or that any part of that which is claimed as new had before been invented or discovered, or patented or described in any printed publication in this or any foreign country as aforesaid, or that the description is defective and insufficient, he shall notify the applicant thereof, giving him briefly such information and references as may be useful in judging of the propriety of renewing his application, or of altering his specification to embrace only that part of the invention or discovery which is new. * * *

INTERFERENCES.

SEC. 8. *And be it further enacted*, That whenever an application shall be made for a patent, which, in the opinion of the Commissioner, would interfere with any other patent for which an application may be pending, or with any unexpired patent which shall have been granted, it shall be the duty of the Commissioner to give notice thereof to such applicants or patentees, as the case may be; and if either shall be dissatisfied with the decision of the Commissioner on the question of priority of right or invention, on a hearing thereof, he may appeal from such decision, on the like terms and conditions as are provided in the preceding section of this act, and the like proceedings shall be had, to determine which, or whether either, of the applicants is entitled to receive a patent as prayed for. But nothing in this act contained shall be construed to deprive an original and true inventor of the right to a patent for his invention by reason of his having previously taken out letters patent therefor in a foreign country, and the same having been published at any time within six months next preceding the filing of his specification and drawings. * * *

SEC. 9. [Relates to patent fees. This section fixed the fee for American citizens at thirty dollars; subjects of Great Britain five hundred dollars, and all other persons three

hundred dollars. This was changed by the law of 1861, (see Section 10, page 76.) All persons, without distinction as to nationality, now pay thirty-five dollars, except the inhabitants of those countries that discriminate against American citizens. In Canada, an American cannot obtain patents. Hence Canadians are charged five hundred dollars for an American patent. It is expected that the Canadian law will be changed so as to remove this discrimination.]

THE HEIRS OF AN INVENTOR MAY OBTAIN A PATENT.

SEC. 10. *And be it further enacted*, That where any person hath made, or shall have made, any new invention, discovery, or improvement, on account of which a patent might by virtue of this act be granted, and such person shall die before any patent shall be granted therefor, the right of applying for and obtaining such patent shall devolve on the executor or administrator of such person, in trust for the heirs-at-law of the deceased, in case he shall have died intestate; but if otherwise, then in trust for his devisees, in as full and ample manner, and under the same conditions, limitations, and restrictions as the same was held, or might have been claimed or enjoyed, by such person in his or her lifetime; and when application for a patent shall be made by such legal representatives, the oath or affirmation provided in the 6th section of this act shall be so varied as to be applicable to them.

PATENTS MAY BE ASSIGNED.

SEC. 11. *And be it further enacted*, That every patent shall be assigned in law, either as to the whole interest or any undivided part thereof, by any instrument in writing; which assignment, and also every grant and conveyance of the exclusive right, under any patent, to make and use, and to grant to others to make and use, the thing patented within and throughout any specified part or portion of the United States, shall be recorded in the Patent Office within three months from the execution thereof. * * *

CAVEATS.

SEC. 12. *And be it further enacted*, That any citizen of the United States, or alien who shall have been a resident of the United States one year next preceding, and shall have made oath of his intention to become a citizen thereof, who shall have invented any new art, machine, or improvement thereof, and shall desire further time to mature the same, may * * * file in the Patent Office a caveat setting forth the design and purpose thereof, and its principal and distinguishing characteristics, and praying protection of his right till he shall have matured his invention. * * * And such caveat shall be filed in the confidential archives of the office, and preserved in secrecy. And if application shall be made by any other person, within one year from the time of filing such caveat, for a patent of any invention with which it may in any respect interfere, it shall be the duty of the Commissioner to deposit the description, specifications, drawings, and model, in the confidential archives of the office, and to give notice (by mail) to the person filing the caveat of such application, *who shall within three months* after receiving the notice, if he would avail himself of the benefit of his caveat, file his description, specifications, drawings, and model; and if, in the opinion of the Commissioner, the specifications of claim interfere with each other, like proceedings may be had in all respects as are in this act provided in the case of interfering applications; *Provided, however*, That no opinion or decision * * * under the provisions of this act, shall preclude any person interested in favor of or against, the validity of any patent which has been or may hereafter be granted, from the right to contest the same in any judicial court, in any action in which its validity may come in question.

RE-ISSUES.

SEC. 13. *And be it further enacted*, That whenever any patent which has heretofore been granted, or which shall hereafter be granted, shall be inoperative or invalid, by reason of a defective or insufficient description or specification, or by reason of the patentee claiming in his specification, as his own invention, more than he had or shall have a

right to claim as new, if the error has or shall have arisen by inadvertency, accident, or mistake, and without any fraudulent or deceptive intention, it shall be lawful for the Commissioner, upon the surrender to him of such patent, * * * to cause a new patent to be issued to the said inventor for the same invention, for the residue of the period then unexpired for which the original patent was granted, in accordance with the patentee's corrected description and specification.* And in case of his death or any assignment by him made of the original patent, a similar right shall vest in his executors, administrators, or assignees. And the patent so reissued, together with the corrected description and specifications, shall have the same effect and operation in law, on the trial of all actions hereafter commenced for causes subsequently accruing, as though the same had been originally filed in such corrected form, before the issuing of the original patent.* * *

SUITS AT LAW.

SEC. 14. *And be it further enacted*, That whenever, in any action for damages [for] making, using, or selling the thing whereof the exclusive right is secured by any patent heretofore granted, or by any patent which may hereafter be granted, a verdict shall be rendered for the plaintiff in such action, it shall be in the power of the court to render judgment of any sum above the amount found by such verdict as the actual damages sustained by the plaintiff, not exceeding three times the amount thereof, according to the circumstances of the case, with costs; and such damages may be recovered by action on the case, in any court of competent jurisdiction, to be brought in the name or names of the person or persons interested, whether as patentee, assignee, or as grantees of the exclusive right within and throughout a specified part of the United States.

SUITS AT LAW.—FOREIGN PATENTS INVALID IF THE INVENTION IS NOT PUT ON SALE WITHIN EIGHTEEN MONTHS FROM THE DATE OF PATENT.

SEC. 15. *And be it further enacted*, That the defendant in any such action shall be permitted to plead the general

* See Section 5, page 65.

States, granting or confirming to inventors the exclusive right to their inventions or discoveries, shall be originally cognizable, as well in equity as at law, by the circuit courts of the United States, or any district court having the powers and jurisdiction of a circuit court; which courts shall have power, upon a bill in equity filed by any party aggrieved, in any such case, to grant injunctions according to the course and principles of courts of equity, to prevent the violation of the rights of any inventor as secured to him by any law of the United States, on such terms and conditions as said courts may deem reasonable: *Provided, however,* That from all judgments and decrees from any such court rendered in the premises, a writ of error or appeal, as the case may require, shall lie to the Supreme Court of the United States, in the same manner and under the same circumstances as is now provided by law in other judgments and decrees of circuit courts, and in all other cases in which the court shall deem it reasonable to allow the same.

EXTENSION OF PATENTS.

SEC. 18. *And be it further enacted,* That whenever any patentee of an invention or discovery shall desire an extension of his patent beyond the term of its limitation,* he may make application therefor, in writing, to the Commissioner of the Patent Office, setting forth the grounds thereof; and the Commissioner shall * * * cause to be published in one or more of the principal newspapers in the City of Washington, and in such other paper or papers as he may deem proper, published in the section of country most interested adversely to the extension of the patent, a notice of such application, and of the time and place when and where the same will be considered, that any person may appear and show cause why the extension should not be granted. And the Secretary of State, the Commissioner of the Patent Office, and the Solicitor of the Treasury shall constitute a board † to hear and decide upon the evidence

* See Section 11, page 76, and Section 16, page 79.

† Repealed—See Section 1, page 71.

produced before them, both for and against the extension, and shall sit for that purpose at the time and place designated in the published notice thereof. The patentee shall furnish a statement, in writing, under oath, of the ascertained value of the invention, and of his receipts and expenditures, sufficiently in detail to exhibit a true and faithful account of loss and profit in any manner accruing to him from and by reason of said invention. And if, upon a hearing of the matter, it shall appear to the full and entire satisfaction of said [Commissioner], having due regard to the public interest therein, that it is just and proper that the term of the patent should be extended, by reason of the patentee, without neglect or fault on his part, having failed to obtain, from the use and sale of his invention, a reasonable remuneration for the time, ingenuity, and expense bestowed upon the same, and the introduction thereof into use, it shall be the duty of the Commissioner to renew and extend the patent, by making a certificate thereon of such extension, for the term of seven years from and after the expiration of the first term; * * * and thereupon the said patent shall have the same effect in law as though it had been originally granted for the term of twenty-one years; and the benefit of such renewal shall extend to assignees and grantees of the right to use the thing patented, to the extent of their respective interests therein: *Provided, however,* That no extension of a patent shall be granted after the expiration of the term for which it was originally issued.

SEC. 19. [Relates to books, etc., for a library.]

SEC. 20. [Relates to the classification, and public exhibition of models, etc., in the Patent Office.]

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Approved July 4, 1836.

PATENT LAW OF 1837.

[Sections 1, 2, 3, 4, relate to means for obtaining new copies of the patents, records, and models, which were destroyed by the burning of the Patent Office in December, 1836. Only a small portion of the old patents and models were ever obtained under this act.]

A PATENT MAY BE DIVIDED INTO SEVERAL SEPARATE PATENTS.

SEC. 5. *And be it further enacted,* That whenever a patent shall be returned for correction and reissue, under the thirteenth section of the act [of 1836] to which this is additional, and the patentee shall desire several patents to be issued for distinct and separate parts of the thing patented, he shall first pay, in manner and in addition to the sum provided by that act, the sum of thirty dollars for each additional patent so to be issued.

ASSIGNMENTS, DRAWINGS, ETC.

SEC. 6. *And be it further enacted,* That any patent hereafter to be issued may be made and issued to the assignee or assignees of the inventor or discoverer, the assignment thereof being first entered of record, and the application therefor being duly made, and the specification duly sworn to by the inventor. And in all cases hereafter the applicant for a patent shall be held to furnish duplicate drawings, whenever the case admits of drawings, one of which to be deposited in the office, and the other to be annexed to the patent, and considered a part of the specification.

DISCLAIMERS.

SEC. 7. *And be it further enacted,* That whenever any patentee shall have, through inadvertence, accident, or mistake, made his specification of claim too broad, claiming more than that of which he was the original or first inventor, some material and substantial part of the thing patented being truly and justly his own, any such patentee, his administrators, executors, and assigns, whether of the whole or of a sectional interest therein, may make disclaimer of such parts of the thing patented as the disclaimant shall not

claim to hold by virtue of the patent or assignment, stating therein the extent of his interest in such patent ; which disclaimer shall be in writing, attested by one or more witnesses, and recorded in the Patent Office, on payment by the person disclaiming, in manner as other patent duties are required by law to be paid, of the sum of ten dollars. And such disclaimer shall thereafter be taken and considered as part of the original specification, to the extent of the interest which shall be possessed in the patent or right secured thereby, by the disclaimant, and by those claiming by or under him, subsequent to the record thereof. But no such disclaimer shall affect any action pending at the time of its being filed, except so far as may relate to the question of unreasonable neglect or delay in filing the same.

REISSUES

SEC. 8. *And be it further enacted*, That whenever application shall be made to the Commissioner for any addition of a newly discovered improvement to be made to an existing patent, or whenever a patent shall be returned for correction and reissue, the specification of claim annexed to every such patent shall be subject to revision and restriction, in the same manner as are original applications for patents ; the Commissioner shall not add any such improvement to the patent in the one case, nor grant the reissue in the other case, until the applicant shall have entered a disclaimer, or altered his specification of claim in accordance with the decision of the Commissioner ; and in all such cases the applicant, if dissatisfied with such decision, shall have the same remedy, and be entitled to the benefit of the same privileges and proceedings as are provided by law in the case of original applications for patents. [See change as to additional improvements, law of 1861, page 75, section 9.]

VALIDITY OF PARTS OF THE PATENT.

SEC. 9. *And be it further enacted*, (any thing in the fifteenth section of the act to which this is additional to the contrary notwithstanding,) That whenever, by mistake, accident, or inadvertence, and without any wilful default or intent to defraud or mislead the public, any patentee shall

have, in his specification, claimed to be the original and first inventor or discoverer of any material or substantial part of the thing patented, of which he was not the first and original inventor, and shall have no legal or just right to claim the same, in every such case the patent shall be deemed good and valid for so much of the invention or discovery as shall be truly and *bona fide* his own: *Provided*, It shall be a material and substantial part of the thing patented, and be definitely distinguishable from the other parts so claimed without right as aforesaid. And every such patentee, his executors, administrators, and assigns, whether of a whole or of a sectional interest therein, shall be entitled to maintain a suit at law or in equity on such patent for any infringement of such part of the invention or discovery as shall be *bona fide* his own as aforesaid, notwithstanding the specification may embrace more than he shall have any legal right to claim. But in every such case in which a judgment or verdict shall be rendered for the plaintiff, he shall not be entitled to recover costs against the defendant, unless he shall have entered at the Patent Office, prior to the commencement of the suit, a disclaimer of all that part of the thing patented which was so claimed without right: *Provided, however*, That no person bringing any such suit shall be entitled to the benefits of the provisions contained in this section who shall have unreasonably neglected or delayed to enter at the Patent Office a disclaimer as aforesaid.

SEC. 10. [Repealed. Related to model agents.]

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OATH OR AFFIRMATION.

SEC. 13. *And be it further enacted*, That in all cases in which an oath is required by this act, or by the act to which this is additional, if the person of whom it is required shall be conscientiously scrupulous of taking an oath, affirmation may be substituted therefor.

SEC. 14. [Relates to salaries and expenses of the Patent Office, Commissioner's report, etc.]

Approved March 3, 1837.

any machine, he shall fully explain the principle, and the several modes in which he has contemplated the application of that principle or character by which it may be distinguished from other inventions; and shall particularly specify and point out the part, improvement, or combination which he claims as his own invention or discovery. He shall, furthermore, accompany the whole with a drawing or drawings, and written references, where the nature of the case admits of drawings; or with specimens of ingredients, and of the composition of matter, sufficient in quantity for the purpose of experiment, where the invention or discovery is of a composition of matter; which descriptions and drawings, signed by the inventor, and attested by two witnesses, shall be filed in the Patent Office; and he shall, moreover, furnish a model of his invention, in all cases which admit of a representation by model, of a convenient size to exhibit advantageously its several parts. The applicant shall make oath or affirmation that he does verily believe that he is the original and first inventor or discoverer of the art, machine, composition, or improvement for which he solicits a patent; and that he does not know or believe that the same was ever before known or used; and also of what country he is a citizen; which oath or affirmation may be made before any person authorized by law to administer oaths.

OFFICIAL EXAMINATIONS.

SEC. 7. *And be it further enacted*, That on the filing of any such application, description, and specification, and the payment of the duty hereinafter provided,* the Commissioner shall make, or cause to be made, an examination of the alleged new invention or discovery; and if, on any such examination, it shall not appear to the Commissioner that the same had been invented or discovered by any other person in this country, prior to the alleged invention or discovery thereof by the applicant, or that it had been patented or described in any printed publication in this or any foreign country, or had been in public use or on sale, with the ap-

* See Section 10, page 76.

plicant's consent or allowance, prior to the application, if the Commissioner shall deem it to be sufficiently useful and important, it shall be his duty to issue a patent therefor. But whenever, on such examination, it shall appear to the Commissioner that the applicant was not the original and first inventor or discoverer thereof, or that any part of that which is claimed as new had before been invented or discovered, or patented or described in any printed publication in this or any foreign country as aforesaid, or that the description is defective and insufficient, he shall notify the applicant thereof, giving him briefly such information and references as may be useful in judging of the propriety of renewing his application, or of altering his specification to embrace only that part of the invention or discovery which is new. * * *

INTERFERENCES.

SEC. 8. *And be it further enacted*, That whenever an application shall be made for a patent, which, in the opinion of the Commissioner, would interfere with any other patent for which an application may be pending, or with any unexpired patent which shall have been granted, it shall be the duty of the Commissioner to give notice thereof to such applicants or patentees, as the case may be; and if either shall be dissatisfied with the decision of the Commissioner on the question of priority of right or invention, on a hearing thereof, he may appeal from such decision, on the like terms and conditions as are provided in the preceding section of this act, and the like proceedings shall be had, to determine which, or whether either, of the applicants is entitled to receive a patent as prayed for. But nothing in this act contained shall be construed to deprive an original and true inventor of the right to a patent for his invention by reason of his having previously taken out letters patent therefor in a foreign country, and the same having been published at any time within six months next preceding the filing of his specification and drawings. * * *

SEC. 9. [Relates to patent fees. This section fixed the fee for American citizens at thirty dollars; subjects of Great Britain five hundred dollars, and all other persons three

hundred dollars. This was changed by the law of 1861, (see Section 10, page 76.) All persons, without distinction as to nationality, now pay thirty-five dollars, except the inhabitants of those countries that discriminate against American citizens. In Canada, an American cannot obtain patents. Hence Canadians are charged five hundred dollars for an American patent. It is expected that the Canadian law will be changed so as to remove this discrimination.]

THE HEIRS OF AN INVENTOR MAY OBTAIN A PATENT.

SEC. 10. *And be it further enacted*, That where any person hath made, or shall have made, any new invention, discovery, or improvement, on account of which a patent might by virtue of this act be granted, and such person shall die before any patent shall be granted therefor, the right of applying for and obtaining such patent shall devolve on the executor or administrator of such person, in trust for the heirs-at-law of the deceased, in case he shall have died intestate; but if otherwise, then in trust for his devisees, in as full and ample manner, and under the same conditions, limitations, and restrictions as the same was held, or might have been claimed or enjoyed, by such person in his or her lifetime; and when application for a patent shall be made by such legal representatives, the oath or affirmation provided in the 6th section of this act shall be so varied as to be applicable to them.

PATENTS MAY BE ASSIGNED.

SEC. 11. *And be it further enacted*, That every patent shall be assigned in law, either as to the whole interest or any undivided part thereof, by any instrument in writing; which assignment, and also every grant and conveyance of the exclusive right, under any patent, to make and use, and to grant to others to make and use, the thing patented within and throughout any specified part or portion of the United States, shall be recorded in the Patent Office within three months from the execution thereof. * * *

CAVEATS.

SEC. 12. *And be it further enacted*, That any citizen of the United States, or alien who shall have been a resident of the United States one year next preceding, and shall have made oath of his intention to become a citizen thereof, who shall have invented any new art, machine, or improvement thereof, and shall desire further time to mature the same, may * * * file in the Patent Office a caveat setting forth the design and purpose thereof, and its principal and distinguishing characteristics, and praying protection of his right till he shall have matured his invention. * * * And such caveat shall be filed in the confidential archives of the office, and preserved in secrecy. And if application shall be made by any other person, within one year from the time of filing such caveat, for a patent of any invention with which it may in any respect interfere, it shall be the duty of the Commissioner to deposit the description, specifications, drawings, and model, in the confidential archives of the office, and to give notice (by mail) to the person filing the caveat of such application, *who shall within three months* after receiving the notice, if he would avail himself of the benefit of his caveat, file his description, specifications, drawings, and model; and if, in the opinion of the Commissioner, the specifications of claim interfere with each other, like proceedings may be had in all respects as are in this act provided in the case of interfering applications; *Provided, however*, That no opinion or decision * * * under the provisions of this act, shall preclude any person interested in favor of or against the validity of any patent which has been or may hereafter be granted, from the right to contest the same in any judicial court, in any action in which its validity may come in question.

RE-ISSUES.

SEC. 18. *And be it further enacted*, That whenever any patent which has heretofore been granted, or which shall hereafter be granted, shall be inoperative or invalid, by reason of a defective or insufficient description or specification, or by reason of the patentee claiming in his specification, as his own invention, more than he had or shall have a

right to claim as new, if the error has or shall have arisen by inadvertency, accident, or mistake, and without any fraudulent or deceptive intention, it shall be lawful for the Commissioner, upon the surrender to him of such patent, * * * to cause a new patent to be issued to the said inventor for the same invention, for the residue of the period then unexpired for which the original patent was granted, in accordance with the patentee's corrected description and specification.* And in case of his death or any assignment by him made of the original patent, a similar right shall vest in his executors, administrators, or assignees. And the patent so reissued, together with the corrected description and specifications, shall have the same effect and operation in law, on the trial of all actions hereafter commenced for causes subsequently accruing, as though the same had been originally filed in such corrected form, before the issuing of the original patent.* * *

SUITS AT LAW.

SEC. 14. *And be it further enacted*, That whenever, in any action for damages [for] making, using, or selling the thing whereof the exclusive right is secured by any patent heretofore granted, or by any patent which may hereafter be granted, a verdict shall be rendered for the plaintiff in such action, it shall be in the power of the court to render judgment of any sum above the amount found by such verdict as the actual damages sustained by the plaintiff, not exceeding three times the amount thereof, according to the circumstances of the case, with costs; and such damages may be recovered by action on the case, in any court of competent jurisdiction, to be brought in the name or names of the person or persons interested, whether as patentee, assignee, or as grantees of the exclusive right within and throughout a specified part of the United States.

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SEC. 18. *And be it further enacted,* That whenever any patentee of an invention or discovery shall desire an extension of his patent beyond the term of its limitation,* he may make application therefor, in writing, to the Commissioner of the Patent Office, setting forth the grounds thereof; and the Commissioner shall * * * cause to be published in one or more of the principal newspapers in the City of Washington, and in such other paper or papers as he may deem proper, published in the section of country most interested adversely to the extension of the patent, a notice of such application, and of the time and place when and where the same will be considered, that any person may appear and show cause why the extension should not be granted. And the Secretary of State, the Commissioner of the Patent Office, and the Solicitor of the Treasury shall constitute a board † to hear and decide upon the evidence

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SEC. 19. [Relates to books, etc., for a library.]

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DISCLAIMERS.

SEC. 7. *And be it further enacted,* That whenever any patentee shall have, through inadvertence, accident, or mistake, made his specification of claim too broad, claiming more than that of which he was the original or first inventor, some material and substantial part of the thing patented being truly and justly his own, any such patentee, his administrators, executors, and assigns, whether of the whole or of a sectional interest therein, may make disclaimer of such parts of the thing patented as the disclaimant shall not

claim to hold by virtue of the patent or assignment, stating therein the extent of his interest in such patent; which disclaimer shall be in writing, attested by one or more witnesses, and recorded in the Patent Office, on payment by the person disclaiming, in manner as other patent duties are required by law to be paid, of the sum of ten dollars. And such disclaimer shall thereafter be taken and considered as part of the original specification, to the extent of the interest which shall be possessed in the patent or right secured thereby, by the disclaimant, and by those claiming by or under him, subsequent to the record thereof. But no such disclaimer shall affect any action pending at the time of its being filed, except so far as may relate to the question of unreasonable neglect or delay in filing the same.

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* See Section 10, page 76.

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SEC. 8. *And be it further enacted*, That whenever an application shall be made for a patent, which, in the opinion of the Commissioner, would interfere with any other patent for which an application may be pending, or with any unexpired patent which shall have been granted, it shall be the duty of the Commissioner to give notice thereof to such applicants or patentees, as the case may be; and if either shall be dissatisfied with the decision of the Commissioner on the question of priority of right or invention, on a hearing thereof, he may appeal from such decision, on the like terms and conditions as are provided in the preceding section of this act, and the like proceedings shall be had, to determine which, or whether either, of the applicants is entitled to receive a patent as prayed for. But nothing in this act contained shall be construed to deprive an original and true inventor of the right to a patent for his invention by reason of his having previously taken out letters patent therefor in a foreign country, and the same having been published at any time within six months next preceding the filing of his specification and drawings. * * *

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hundred dollars. This was changed by the law of 1861, (see Section 10, page 76.) All persons, without distinction as to nationality, now pay thirty-five dollars, except the inhabitants of those countries that discriminate against American citizens. In Canada, an American cannot obtain patents. Hence Canadians are charged five hundred dollars for an American patent. It is expected that the Canadian law will be changed so as to remove this discrimination.]

THE HEIRS OF AN INVENTOR MAY OBTAIN A PATENT.

SEC. 10. *And be it further enacted*, That where any person hath made, or shall have made, any new invention, discovery, or improvement, on account of which a patent might by virtue of this act be granted, and such person shall die before any patent shall be granted therefor, the right of applying for and obtaining such patent shall devolve on the executor or administrator of such person, in trust for the heirs-at-law of the deceased, in case he shall have died intestate; but if otherwise, then in trust for his devisees, in as full and ample manner, and under the same conditions, limitations, and restrictions as the same was held, or might have been claimed or enjoyed, by such person in his or her lifetime; and when application for a patent shall be made by such legal representatives, the oath or affirmation provided in the 6th section of this act shall be so varied as to be applicable to them.

PATENTS MAY BE ASSIGNED.

SEC. 11. *And be it further enacted*, That every patent shall be assigned in law, either as to the whole interest or any undivided part thereof, by any instrument in writing; which assignment, and also every grant and conveyance of the exclusive right, under any patent, to make and use, and to grant to others to make and use, the thing patented within and throughout any specified part or portion of the United States, shall be recorded in the Patent Office within three months from the execution thereof. * * *

CAVEATS.

SEC. 12. *And be it further enacted*, That any citizen of the United States, or alien who shall have been a resident of the United States one year next preceding, and shall have made oath of his intention to become a citizen thereof, who shall have invented any new art, machine, or improvement thereof, and shall desire further time to mature the same, may * * * file in the Patent Office a caveat setting forth the design and purpose thereof, and its principal and distinguishing characteristics, and praying protection of his right till he shall have matured his invention. * * * And such caveat shall be filed in the confidential archives of the office, and preserved in secrecy. And if application shall be made by any other person, within one year from the time of filing such caveat, for a patent of any invention with which it may in any respect interfere, it shall be the duty of the Commissioner to deposit the description, specifications, drawings, and model, in the confidential archives of the office, and to give notice (by mail) to the person filing the caveat of such application, *who shall within three months* after receiving the notice, if he would avail himself of the benefit of his caveat, file his description, specifications, drawings, and model; and if, in the opinion of the Commissioner, the specifications of claim interfere with each other, like proceedings may be had in all respects as are in this act provided in the case of interfering applications; *Provided, however*, That no opinion or decision * * * under the provisions of this act, shall preclude any person interested in favor of or against the validity of any patent which has been or may hereafter be granted, from the right to contest the same in any judicial court, in any action in which its validity may come in question.

RE-ISSUES.

SEC. 13. *And be it further enacted*, That whenever any patent which has heretofore been granted, or which shall hereafter be granted, shall be inoperative or invalid, by reason of a defective or insufficient description or specification, or by reason of the patentee claiming in his specification, as his own invention, more than he had or shall have a

right to claim as new, if the error has or shall have arisen by inadvertency, accident, or mistake, and without any fraudulent or deceptive intention, it shall be lawful for the Commissioner, upon the surrender to him of such patent, * * * to cause a new patent to be issued to the said inventor for the same invention, for the residue of the period then unexpired for which the original patent was granted, in accordance with the patentee's corrected description and specification.* And in case of his death or any assignment by him made of the original patent, a similar right shall vest in his executors, administrators, or assignees. And the patent so reissued, together with the corrected description and specifications, shall have the same effect and operation in law, on the trial of all actions hereafter commenced for causes subsequently accruing, as though the same had been originally filed in such corrected form, before the issuing of the original patent.* * *

SUITS AT LAW.

SEC. 14. *And be it further enacted*, That whenever, in any action for damages [for] making, using, or selling the thing whereof the exclusive right is secured by any patent heretofore granted, or by any patent which may hereafter be granted, a verdict shall be rendered for the plaintiff in such action, it shall be in the power of the court to render judgment of any sum above the amount found by such verdict as the actual damages sustained by the plaintiff, not exceeding three times the amount thereof, according to the circumstances of the case, with costs; and such damages may be recovered by action on the case, in any court of competent jurisdiction, to be brought in the name or names of the person or persons interested, whether as patentee, assignee, or as grantees of the exclusive right within and throughout a specified part of the United States.

SUITS AT LAW.—FOREIGN PATENTS INVALID IF THE INVENTION IS NOT PUT ON SALE WITHIN EIGHTEEN MONTHS FROM THE DATE OF PATENT.

SEC. 15. *And be it further enacted*, That the defendant in any such action shall be permitted to plead the general

* See Section 5, page 65.

States, granting or confirming to inventors the exclusive right to their inventions or discoveries, shall be originally cognizable, as well in equity as at law, by the circuit courts of the United States, or any district court having the powers and jurisdiction of a circuit court; which courts shall have power, upon a bill in equity filed by any party aggrieved, in any such case, to grant injunctions according to the course and principles of courts of equity, to prevent the violation of the rights of any inventor as secured to him by any law of the United States, on such terms and conditions as said courts may deem reasonable: *Provided, however,* That from all judgments and decrees from any such court rendered in the premises, a writ of error or appeal, as the case may require, shall lie to the Supreme Court of the United States, in the same manner and under the same circumstances as is now provided by law in other judgments and decrees of circuit courts, and in all other cases in which the court shall deem it reasonable to allow the same.

EXTENSION OF PATENTS.

SEC. 18. *And be it further enacted,* That whenever any patentee of an invention or discovery shall desire an extension of his patent beyond the term of its limitation,* he may make application therefor, in writing, to the Commissioner of the Patent Office, setting forth the grounds thereof; and the Commissioner shall * * * cause to be published in one or more of the principal newspapers in the City of Washington, and in such other paper or papers as he may deem proper, published in the section of country most interested adversely to the extension of the patent, a notice of such application, and of the time and place when and where the same will be considered, that any person may appear and show cause why the extension should not be granted. And the Secretary of State, the Commissioner of the Patent Office, and the Solicitor of the Treasury shall constitute a board † to hear and decide upon the evidence

* See Section 11, page 76, and Section 16, page 79.

† Repealed—See Section 1, page 71.

produced before them, both for and against the extension, and shall sit for that purpose at the time and place designated in the published notice thereof. The patentee shall furnish a statement, in writing, under oath, of the ascertained value of the invention, and of his receipts and expenditures, sufficiently in detail to exhibit a true and faithful account of loss and profit in any manner accruing to him from and by reason of said invention. And if, upon a hearing of the matter, it shall appear to the full and entire satisfaction of said [Commissioner], having due regard to the public interest therein, that it is just and proper that the term of the patent should be extended, by reason of the patentee, without neglect or fault on his part, having failed to obtain, from the use and sale of his invention, a reasonable remuneration for the time, ingenuity, and expense bestowed upon the same, and the introduction thereof into use, it shall be the duty of the Commissioner to renew and extend the patent, by making a certificate thereon of such extension, for the term of seven years from and after the expiration of the first term; * * * and thereupon the said patent shall have the same effect in law as though it had been originally granted for the term of twenty-one years; and the benefit of such renewal shall extend to assignees and grantees of the right to use the thing patented, to the extent of their respective interests therein: *Provided, however,* That no extension of a patent shall be granted after the expiration of the term for which it was originally issued.

SEC. 19. [Relates to books, etc., for a library.]

SEC. 20. [Relates to the classification, and public exhibition of models, etc., in the Patent Office.]

SEC. 21. [Relates to actions and cases sued or pending under previous laws.]

Approved July 4, 1836.

PATENT LAW OF 1837.

[Sections 1, 2, 3, 4, relate to means for obtaining new copies of the patents, records, and models, which were destroyed by the burning of the Patent Office in December, 1836. Only a small portion of the old patents and models were ever obtained under this act.]

A PATENT MAY BE DIVIDED INTO SEVERAL SEPARATE PATENTS.

SEC. 5. *And be it further enacted,* That whenever a patent shall be returned for correction and reissue, under the thirteenth section of the act [of 1836] to which this is additional, and the patentee shall desire several patents to be issued for distinct and separate parts of the thing patented, he shall first pay, in manner and in addition to the sum provided by that act, the sum of thirty dollars for each additional patent so to be issued.

ASSIGNMENTS, DRAWINGS, ETC.

SEC. 6. *And be it further enacted,* That any patent hereafter to be issued may be made and issued to the assignee or assignees of the inventor or discoverer, the assignment thereof being first entered of record, and the application therefor being duly made, and the specification duly sworn to by the inventor. And in all cases hereafter the applicant for a patent shall be held to furnish duplicate drawings, whenever the case admits of drawings, one of which to be deposited in the office, and the other to be annexed to the patent, and considered a part of the specification.

DISCLAIMERS.

SEC. 7. *And be it further enacted,* That whenever any patentee shall have, through inadvertence, accident, or mistake, made his specification of claim too broad, claiming more than that of which he was the original or first inventor, some material and substantial part of the thing patented being truly and justly his own, any such patentee, his administrators, executors, and assigns, whether of the whole or of a sectional interest therein, may make disclaimer of such parts of the thing patented as the disclaimant shall not

claim to hold by virtue of the patent or assignment, stating therein the extent of his interest in such patent ; which disclaimer shall be in writing, attested by one or more witnesses, and recorded in the Patent Office, on payment by the person disclaiming, in manner as other patent duties are required by law to be paid, of the sum of ten dollars. And such disclaimer shall thereafter be taken and considered as part of the original specification, to the extent of the interest which shall be possessed in the patent or right secured thereby, by the disclaimant, and by those claiming by or under him, subsequent to the record thereof. But no such disclaimer shall affect any action pending at the time of its being filed, except so far as may relate to the question of unreasonable neglect or delay in filing the same.

REISSUES

SEC. 8. *And be it further enacted,* That whenever application shall be made to the Commissioner for any addition of a newly discovered improvement to be made to an existing patent, or whenever a patent shall be returned for correction and reissue, the specification of claim annexed to every such patent shall be subject to revision and restriction, in the same manner as are original applications for patents ; the Commissioner shall not add any such improvement to the patent in the one case, nor grant the reissue in the other case, until the applicant shall have entered a disclaimer, or altered his specification of claim in accordance with the decision of the Commissioner ; and in all such cases the applicant, if dissatisfied with such decision, shall have the same remedy, and be entitled to the benefit of the same privileges and proceedings as are provided by law in the case of original applications for patents. [See change as to additional improvements, law of 1861, page 75, section 9.]

VALIDITY OF PARTS OF THE PATENT.

SEC. 9. *And be it further enacted,* (any thing in the fifteenth section of the act to which this is additional to the contrary notwithstanding,) That whenever, by mistake, accident, or inadvertence, and without any wilful default or intent to defraud or mislead the public, any patentee shall

have, in his specification, claimed to be the original and first inventor or discoverer of any material or substantial part of the thing patented, of which he was not the first and original inventor, and shall have no legal or just right to claim the same, in every such case the patent shall be deemed good and valid for so much of the invention or discovery as shall be truly and *bona fide* his own: *Provided*, It shall be a material and substantial part of the thing patented, and be definitely distinguishable from the other parts so claimed without right as aforesaid. And every such patentee, his executors, administrators, and assigns, whether of a whole or of a sectional interest therein, shall be entitled to maintain a suit at law or in equity on such patent for any infringement of such part of the invention or discovery as shall be *bona fide* his own as aforesaid, notwithstanding the specification may embrace more than he shall have any legal right to claim. But in every such case in which a judgment or verdict shall be rendered for the plaintiff, he shall not be entitled to recover costs against the defendant, unless he shall have entered at the Patent Office, prior to the commencement of the suit, a disclaimer of all that part of the thing patented which was so claimed without right: *Provided, however*, That no person bringing any such suit shall be entitled to the benefits of the provisions contained in this section who shall have unreasonably neglected or delayed to enter at the Patent Office a disclaimer as aforesaid.

SEC. 10. [Repealed. Related to model agents.]

SEC. 11. [Relates to clerks and copying.]

SEC. 12. [Relates to refunding of money in rejected cases, which by the law of 1861, section 9, is forbidden.]

OATH OR AFFIRMATION.

SEC. 13. *And be it further enacted*, That in all cases in which an oath is required by this act, or by the act to which this is additional, if the person of whom it is required shall be conscientiously scrupulous of taking an oath, affirmation may be substituted therefor.

SEC. 14. [Relates to salaries and expenses of the Patent Office, Commissioner's report, etc.]

Approved March 3, 1837.

PATENT LAW OF 1839.

SEC. 1, 2, 3, 4, 5, relate to employés at the Patent Office, expenses thereof, patent lists, and books.

FOREIGN INVENTIONS MAY BE PATENTED IF NOT PUBLICLY INTRODUCED PRIOR TO THE APPLICATION.

SEC. 6. *And be it further enacted*, That no person shall be debarred from receiving a patent for any invention or discovery, as provided in the act approved on the fourth day of July, one thousand eight hundred and thirty-six, to which this is additional, by reason of the same having been patented in a foreign country more than six months prior to his application: *Provided*, That the same shall not have been introduced into public and common use in the United States prior to the application for such patent: *And provided, also*, That in all cases every such patent shall be limited to the term of fourteen* years from the date or publication of such foreign letters patent.

MACHINES, ETC., MADE PRIOR TO THE PATENT MAY BE CONTINUED IN USE AFTER ISSUE OF THE PATENT.

SEC. 7. *And be it further enacted*, That every person or corporation who has, or shall have, purchased or constructed any newly invented machine, manufacture, or composition of matter, prior to the application by the inventor or discoverer for a patent, shall be held to possess the right to use, and vend to others to be used, the specific machine, manufacture, or composition of matter so made or purchased, without liability therefor to the inventor, or any other person interested in such invention; and no patent shall be held to be invalid by reason of such purchase, sale, or use, prior to the application for a patent as aforesaid, except on proof of abandonment of such invention to the public, or that such purchase, sale, or prior use, has been for more than two years prior to such application for a patent.

SEC. 8. [Relates to fees for recording, since changed.]

SEC. 9. [Relates to agricultural statistics.]

* Changed to seventeen years by the law of 1861. See page 79, section 16.

CONTESTED CASES.

SEC. 10. *And be it further enacted,* That the provisions of the sixteenth section of the before-recited act (law of 1836) shall extend to all cases where patents are refused for any reason whatever, either by the Commissioner of Patents or by the Chief-Justice of the District of Columbia, upon appeals from the decision of said Commissioner, as well as where the same shall have been refused on account of, or by reason of, interference with a previously existing patent; and in all cases where there is no opposing party a copy of the bill shall be served upon the Commissioner of Patents, when the whole of the expenses of the proceeding shall be paid by the applicant, whether the final decision shall be in his favor or otherwise.

APPEALS.

SEC. 11. *And be it further enacted,* That in cases where an appeal is now allowed by law from the decision of the Commissioner of Patents * * * the party, * * * shall have right to appeal to the Chief-Justice of the District Court of the United States for the District of Columbia, by giving notice thereof to the Commissioner, and filing in the Patent Office, within such time as the Commissioner shall appoint, his reasons of appeal, specifically set forth in writing, and also paying into the Patent Office, to the credit of the patent fund, the sum of twenty-five dollars. And it shall be the duty of said Chief-Justice, on petition, to hear and determine all such appeals, and to revise such decisions in a summary way, on the evidence produced before the Commissioner, at such early and convenient time as he may appoint, first notifying the Commissioner of the time and place of hearing, whose duty it shall be to give notice thereof to all parties who appear to be interested therein, in such manner as said judge shall prescribe. The Commissioner shall also lay before the said judge all the original papers and evidence in the case, together with the grounds of his decision, fully set forth in writing, touching all the points involved by the reasons of appeal, to which the revision shall be confined. And at the request of any party interested, or at the desire of the judge, the Commissioner

and the examiners in the Patent Office may be examined, under oath, in explanation of the principles of the machine, or other thing, for which a patent in such case is prayed for. And it shall be the duty of the said judge, after a hearing of any such case, to return all the papers to the Commissioner, with a certificate of his proceedings and decision, which shall be entered of record in the Patent Office; and such decision, so certified, shall govern the further proceedings of the Commissioner in such case: *Provided, however,* That no opinion or decision of the judge in any such case shall preclude any person interested in favor or against the validity of any patent which has been, or may hereafter be, granted, from the right to contest the same in any judicial court, in any action in which its validity may come in question.

SEC. 12. [Relates to rules in contested cases, and to examiners, but has been changed.]

SEC. 13. [Relates to fees to the justice.]

Approved March 3, 1839.

PATENT LAW OF 1842.

SECTION 1. [Authorizes the refunding of money paid by mistake in certain cases.]

SEC. 2. [Relates to patent records that were destroyed by fire in 1836.]

SEC. 3. [Repealed.]

TAKING THE OATH IN FOREIGN COUNTRIES.

SEC. 4. *And be it further enacted,* That the oath required for applicants for patents may be taken, when the applicant is not, for the time being, residing in the United States, before any minister plenipotentiary, chargé d'affaires, consul, or commercial agent holding commission under the government of the United States, or before any notary public of the foreign country in which such applicant may be.

PENALTY FOR STAMPING UNPATENTED ARTICLES.

SEC. 5. *And be it further enacted,* That if any person or persons shall paint, or print, or mould, cast, carve, or en-

issue, and to give this act and any special matter in evidence, of which notice in writing may have been given to the plaintiff or his attorney, thirty days before trial, tending to prove that the description and specification filed by the plaintiff does not contain the whole truth relative to his invention or discovery, or that it contains more than is necessary to produce the described effect ; which concealment or addition shall fully appear to have been made for the purpose of deceiving the public, or that the patentee was not the original and first inventor or discoverer of the thing patented, or of a substantial and material part thereof claimed as new, or that it has been described in some public work anterior to the supposed discovery thereof by the patentee, or had been in public use or on sale with the consent and allowance of the patentee before his application for a patent, or that he had surreptitiously or unjustly obtained the patent for that which was in fact invented or discovered by another, who was using reasonable diligence in adapting and perfecting the same ; or that the patentee, if an alien at the time the patent was granted, had failed and neglected, for the space of eighteen months from the date of the patent, to put and continue on sale to the public, on reasonable terms, the invention or discovery for which the patent issued ; and whenever the defendant relies in his defence on the fact of a previous invention, knowledge, or use of the thing patented, he shall state, in his notice of special matters, the names and places of residence of those whom he intends to prove to have possessed a prior knowledge of the thing, and where the same had been used ; in either of which cases judgment shall be rendered for the defendant with costs : *Provided, however,* That whenever it shall satisfactorily appear that the patentee, at the time of making his application for the patent, believing himself to be the first inventor or discoverer of the thing patented, the same shall not be held to be void on account of the invention or discovery, or any part thereof, having been before known or used in any foreign country ; it not appearing that the same or any substantial part thereof had before been patented or described in any printed publication : *And provided, also,* That whenever the plaintiff shall fail to sustain his action on the ground that in his specification or claim is

embraced more than that of which he was the first inventor, if it shall appear that the defendant had used or violated any part of the invention justly and truly specified and claimed as new, it shall be in the power of the court to adjudge and award, as to costs, as may appear to be just and equitable.* * *

PATENTS MAY BE DECLARED VOID.

SEC. 16. *And be it further enacted*, That whenever there shall be two interfering patents, or whenever a patent or application shall have been refused * * * on the ground that that patent applied for would interfere with an unexpired patent previously granted, any person interested in any such patent, either by assignment or otherwise in the one case, and any such applicant in the other case, may have remedy by bill in equity; and the court having cognizance thereof, on notice to adverse parties, and other due proceedings had, may adjudge and declare either the patents void in the whole or in part, or inoperative and invalid in any particular part or portion of the United States, according to the interest which the parties to such suit may possess in the patent or the inventions patented; and may also adjudge that such applicant is entitled, according to the principles and provisions of this act, to have and receive a patent for his invention, as specified in his claim, or for any part thereof, as the fact of priority of right or invention shall, in any such case, be made to appear. And such adjudication, if it be in favor of the right of such applicant, shall authorize the Commissioner to issue such patent, on his filing a copy of the adjudication, and otherwise complying with the requisitions of this act: *Provided, however*, That no such judgment or adjudication shall affect the rights of any person, except the parties to the action, and those deriving title from or under them subsequent to the rendition of such judgment.*

COURTS TO HAVE POWERS, ETC.

SEC. 17. *And be it further enacted*, That all actions, suits, controversies, and cases arising under any law of the United

* See Section 9, page 66.

grave, or stamp upon any thing made, used, or sold by him, for the sole making or selling which he hath not, or shall not have, obtained letters patent, the name, or any imitation of the name of any other person who hath, or shall have, obtained letters patent for the sole making and vending of such thing, without consent of such patentee, or his assigns or legal representatives; or if any person, upon any such thing not having been purchased from the patentee, or some person who purchased it from or under such patentee, or not having the license or consent of such patentee, or his assigns or legal representatives, shall write, paint, print, mould, cast, carve, engrave, stamp, or otherwise make or affix the word "patent," or the words "letters patent," or the word "patentee," or any word or words of like kind, meaning, or import, with the view or intent of imitating or counterfeiting the stamp, mark, or other device of the patentee, or shall affix the same, or any word, stamp, or device of like import, on any unpatented article, for the purpose of deceiving the public, he, she, or they, so offending, shall be liable for such offence to a penalty of not less than one hundred dollars, with costs, to be recovered by action in any of the circuit courts of the United States, or in any of the district courts of the United States having the powers and jurisdiction of a circuit court; one half of which penalty, as recovered, shall be paid to the patent fund, and the other half to any person who shall sue for the same.

SEC. 6. [Repealed.]

Approved August 29, 1842.

PATENT LAW OF 1848.

THE COMMISSIONER TO EXTEND PATENTS.

Be it enacted, etc., * * * That the power to extend patents, shall hereafter be vested solely in the Commissioner of Patents; and when an application is made to him for the extension of a patent, * * * he shall refer the case to the principal examiner having charge of the class of inventions to which said case belongs, who shall make a full report to

said Commissioner of the said case, and particularly whether the invention or improvement secured in the patent was new and patentable when patented; * * * but no patent shall be extended for a longer term than seven years.

SEC. 2. [Relates to record fees—since changed.]

SEC. 3. [Relates to clerks and copying.]

SEC. 4. [Relates to Patent Reports, etc.]

Approved May 27, 1848.

PATENT LAW OF 1849.

And be it further enacted, That the Secretary of the Interior shall exercise and perform all the acts of supervision and appeal in regard to the office of Commissioner of Patents, now exercised by the Secretary of State.

PATENT LAW OF 1852.

JUDGES TO HEAR APPEALS.

Be it enacted, etc., That appeals provided for in the eleventh section of the act, (law of 1839,) * * * may also be made to either of the assistant judges of the Circuit Court of the District of Columbia; and all the powers, duties, and responsibilities imposed by the aforesaid act, and conferred upon the chief judge, are hereby imposed and conferred upon each of the said assistant judges.

SEC. 2. *And be it further enacted*, That in case appeal shall be made to the said chief judge, or to either of the said assistant judges, the Commissioner of Patents shall pay to such chief judge, or assistant judge, the sum of twenty-five dollars, required to be paid by the appellant into the Patent Office by the eleventh section of said act, on said appeal.

SEC. 3. [Repeals a former section relating to a fee to the justice.]

Approved August 30, 1852.

PATENT LAW OF 1861.**COMMISSIONER TO ISSUE SUBPŒNAS, ETC.**

Be it enacted, etc., That the Commissioner of Patents may establish rules for taking affidavits and depositions required in cases pending in the Patent Office, and such affidavits and depositions may be taken before any justice of the peace or other officer authorized by law to take depositions to be used in the courts of the United States, or in the State courts of any State where such officer shall reside; and in any contested case pending in the Patent Office it shall be lawful for the clerk of any court of the United States for any district or Territory, and he is hereby required, upon the application of any party to such contested case, or the agent or attorney of such party, to issue subpœnas for any witnesses residing or being within the said district or Territory, commanding such witnesses to appear and testify before any justice of the peace, or other officer as aforesaid, residing within the said district or Territory, at any time and place in the subpœna to be stated; and if any witness, after being duly served with such subpœna, shall refuse or neglect to appear, or, after appearing, shall refuse to testify, (not being privileged from giving testimony,) such refusal or neglect being proved to the satisfaction of any judge of the court whose clerk shall have issued such subpœna, said judge may thereupon proceed to enforce obedience to the process, or to punish the disobedience in like manner as any court of the United States may do in case of disobedience to process of *subpœna ad testificandum* issued by such court; and witnesses in such cases shall be allowed the same compensation as is allowed to witnesses attending the courts of the United States: *Provided*, That no witness shall be required to attend at any place more than forty miles from the place where the subpœna shall be served upon him to give a deposition under this law: *Provided also*, That no witness shall be deemed guilty of contempt for refusing to disclose any secret invention made or owned by him: *And provided, further*, That no witness shall be deemed guilty of contempt for disobeying any subpœna directed to him by virtue of this act, unless his fees for going to, returning

from, and one day's attendance at the place of examination shall be paid or tendered him at the time of the service of the subpoena.

EXAMINERS-IN-CHIEF.

SEC. 2. *And be it further enacted*, That for the purpose of securing greater uniformity of action in the grant and refusal of letters patent, there shall be appointed by the President, by and with the advice and consent of the Senate, three examiners-in-chief, at an annual salary of three thousand dollars each, to be composed of persons of competent legal knowledge and scientific ability, whose duty it shall be, on the written petition of the applicant for that purpose being filed, to revise and determine upon the validity of decisions made by examiners when adverse to the grant of letters patent; and also to revise and determine in like manner upon the validity of the decisions of examiners in interference cases, and when required by the Commissioner in applications for the extension of patents, and to perform such other duties as may be assigned to them by the Commissioner; that from their decisions appeals may be taken to the Commissioner of Patents in person, upon payment of the fee hereinafter prescribed; that the said examiners-in-chief shall be governed in their action by the rules to be prescribed by the Commissioner of Patents.

SEC. 3. *And be it further enacted*. That no appeal shall be allowed to the examiners-in-chief from the decisions of the primary examiners, except in interference cases, until after the application shall have been twice rejected. * * *

SEC. 4. [Relates to salaries.]

RETURN OF MODELS.

SEC. 5. *And be it further enacted*, That the Commissioner of Patents is authorized to restore to the respective applicants, or when not removed by them, to otherwise dispose of such of the models belonging to rejected applications as he shall not think necessary to be preserved. The same authority is also given in relation to all models accompanying applications for designs. He is further authorized to

dispense in future with models of designs when the design can be sufficiently represented by a drawing.

SEC. 6. [Repeals agencies for models.]

SEC. 7. [Relates to clerks.]

PAPERS MUST BE PROPERLY PREPARED.

SEC. 8. *And be it further enacted*, That the Commissioner may require all papers filed in the Patent Office, if not correctly, legibly, and clearly written, to be printed at the cost of the parties filing such papers; and for gross misconduct he may refuse to recognize any person as a patent agent, either generally or in any particular case; but the reasons of the Commissioner for such refusal shall be duly recorded, and subject to the approval of the President of the United States.

NO MONEY RETURNED ON REJECTED CASES.

SEC. 9. *And be it further enacted*, That no money paid as a fee on any application for a patent after the passage of this act shall be withdrawn or refunded; nor shall the fee paid on filing a caveat be considered as part of the sum required to be paid on filing a subsequent application for a patent for the same invention.

That the three months' notice given to any caveator in pursuance of the requirements of the twelfth section of the act of July fourth, eighteen hundred and thirty-six, shall be computed from the day on which such notice is deposited in the post-office at Washington, with the regular time for the transmission of the same added thereto, which time shall be indorsed on the notice; and that so much of the thirteenth section of the act of Congress, approved July fourth, eighteen hundred and thirty-six, as authorizes the annexing to letters patent of the description and specification of additional improvements, is hereby repealed, and in all cases where additional improvements would now be admissible independent patents must be applied for.

SCHEDULE OF OFFICIAL FEES.

SEC. 10. *And be it further enacted*, That all laws now in force fixing the rates of the Patent Office fees to be paid,

and discriminating between the inhabitants of the United States and those of other countries which shall not discriminate against the inhabitants of the United States, are hereby repealed, and in their stead the following rates are established :

On filing each caveat, ten dollars.

On filing each original application for a patent, except for a design, fifteen dollars.

On issuing each original patent, twenty dollars.

On every appeal from the examiners-in-chief to the Commissioner, twenty dollars.

On every application for the reissue of a patent, thirty dollars.

On every application for the extension of a patent, fifty dollars ; and fifty dollars, in addition, on the granting of every extension.

On filing each disclaimer, ten dollars.

For certified copies of patents and other papers, ten cents per hundred words.

For recording every assignment, agreement, power of attorney, and other papers, of three hundred words or under, one dollar.

For recording every assignment and other papers over three hundred and under one thousand words, two dollars.

For recording every assignment or other writing, if over one thousand words, three dollars.

For copies of drawings, the reasonable cost of making the same.

PATENTS FOR DESIGNS.

SEC. 11. *And be it further enacted*, That any citizen or citizens, or alien or aliens, having resided one year in the United States, and taken the oath of his or their intention to become a citizen or citizens, who by his, her, or their own industry, genius, efforts, and expense, may have invented or produced any new and original design for a manufacture, whether of metal or other material or materials, and original design for a bust, statue, or bas-relief, or composition in alto or basso relievo, or any new and original impression or ornament, or to be placed on any article of

manufacture, the same being formed in marble or other material, or any new and useful pattern, or print, or picture, to be either worked into or worked on, or printed or painted or cast, or otherwise fixed on any article of manufacture, or any new and original shape or configuration of any article of manufacture, not known or used by others before his, her, or their invention or production thereof, and prior to the time of his, her, or their application for a patent therefor, and who shall desire to obtain an exclusive property or right therein to make, use, and sell, and vend the same, or copies of the same to others, by them to be made, used, and sold, may make application in writing to the Commissioner of Patents, expressing such desire; and the Commissioner, on due proceedings had, may grant a patent therefor, as in the case now of application for a patent, for for the term of three and one half years, or for the term of seven years, or for the term of fourteen years, as the said applicant may elect in his application: *Provided*, That the fee to be paid in such application shall be for the term of three years and six months, ten dollars; for seven years, fifteen dollars; and for fourteen years, thirty dollars: *And provided*, That the patentees of designs under this act shall be entitled to the extension of their respective patents, for the term of seven years from the day on which said patents shall expire, upon the same terms and restrictions as are now provided for the extension of letters patent.

APPLICATIONS MUST BE COMPLETED WITHIN TWO YEARS.

SEC. 12. *And be it further enacted*, That all applications for patents shall be completed and prepared for examination within two years after the filing of the petition, and in default thereof they shall be regarded as abandoned by the parties thereto, unless it be shown, to the satisfaction of the Commissioner of Patents, that such delay was unavoidable; and all applications now pending shall be treated as if filed after the passage of this act; and all applications for the extension of patents shall be filed at least ninety days before the expiration thereof, and notice of the day

set for the hearing of the case shall be published, as now required by law, for at least sixty days.

PATENTED ARTICLES TO BE STAMPED.

SEC. 13. *And be it further enacted*, That in all cases where an article is made or vended by any person under the protection of letters patent, it shall be the duty of such person to give sufficient notice to the public that said article is so patented, either by fixing thereon the word patented, together with the day and year the patent was granted, or when, from the character of the article patented, that may be impracticable, by enveloping one or more of the said articles, and affixing a label to the package, or otherwise attaching thereto a label, on which the notice, with the date, is printed; on failure of which, in any suit for the infringement of letters patent by the party failing so to mark the article the right to which is infringed upon, no damage shall be recovered by the plaintiff, except on proof that the defendant was duly notified of the infringement, and continued after such notice to make or vend the article patented. * * *

PATENTS MAY BE PRINTED.

SEC. 14. *And be it further enacted*, That the Commissioner of Patents be, and he is hereby, authorized to print, or in his discretion to cause to be printed, ten copies of the description and claims of all patents which may hereafter be granted, and ten copies of the drawings of the same, when drawings shall accompany the patents: *Provided*, The cost of printing the text of said descriptions and claims shall not exceed, exclusive of stationery, the sum of two cents per hundred words for each of said copies, and the cost of the drawing shall not exceed fifty cents per copy; one copy of the above number shall be printed on parchment, to be affixed to the letters patent; the work shall be under the direction, and subject to the approval, of the Commissioner of Patents, and the expense of the said copies shall be paid for out of the patent fund.

SEC. 15. *And be it further enacted*, That printed copies

of the letters patent of the United States, with the seal of the Patent Office affixed thereto, and certified and signed by the Commissioner of Patents, shall be legal evidence of the contents of said letters patents in all cases.

PATENTS GRANTED FOR SEVENTEEN YEARS. EXTENSIONS PROHIBITED.

SEC. 16. *And be it further enacted*, That all patents hereafter granted shall remain in force for the term of seventeen years from the date of issue; and all extension of such patents is hereby prohibited.

SEC. 17. *And be it further enacted*, That all acts and parts of acts heretofore passed, which are inconsistent with the provisions of this act, be, and the same are hereby, repealed.

Approved March 2, 1861.

PATENT LAW OF 1863.

SEC. 1. [Repeals the renewal of oath.]

SEC. 2. [Relates to clerks, etc.]

DATING OF PATENTS.

SEC. 3. *And be it further enacted*, That every patent shall be dated as of a day not later than six months after the time at which it was passed and allowed, and notice thereof sent to the applicant or his agent. And if the final fee for such patent be not paid within the said six months the patent shall be withheld, and the invention therein described shall become public property as against the applicant therefor: * *Provided*, That, in all cases where patents have been allowed previous to the passage of this act, the said six months shall be reckoned from the date of such passage.

Approved March 3, 1863.

* Modified. See law of 1865.

PATENT LAW OF 1865

FORFEITED APPLICATIONS MAY BE REVIVED.

Be it enacted, That any person having an interest in an invention, whether as inventor or assignee, for which a patent was ordered to issue upon the payment of the final fee, as provided in section three of an act approved March third, eighteen hundred and sixty-three, but who failed to make payment of the final fee, as provided in said act, shall have the right to make an application for a patent for his invention, the same as in the case of an original application, provided such application be made within two years after the date of the allowance of the original application: *Provided*, that nothing herein shall be so construed as to hold responsible in damages any persons who have manufactured or used any article or thing for which a patent aforesaid was ordered to issue.

This act shall apply to all cases now in the Patent Office, and also to such as shall hereafter be filed; and all acts or parts of acts inconsistent with this act are hereby repealed.

Approved, March 3, 1865.

PATENT LAW OF 1866.

APPEALS TO THE EXAMINERS-IN-CHIEF.

Be it enacted, That upon appealing for the first time from the decision of the primary examiner to the examiners-in-chief in the Patent Office, the appellant shall pay a fee of ten dollars into the Patent Office to the credit of the Patent fund; and no appeal from the primary examiner to the examiners-in-chief shall hereafter be allowed until the appellant shall pay said fee.

Approved, June 27, 1866.

The yearly official Reports of the Patent Office are distributed gratuitously to the public, on application to members of Congress. The Reports are not sold by the government.

[From The Scientific American.]

RELATING TO PATENTS.



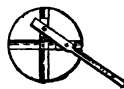
It may be well for parties who are interested in new inventions to remember that our firm of Munn & Co. have taken out far more patents, and have, therefore, had much greater experience in the profession, than any other agency in the world. Those who confide their business to us may therefore rely upon having it done in the best manner on the most moderate terms.

In addition to these advantages, we make it a general rule to assist the interest of our clients by giving publicity in the form of editorial notices, of all the new and meritorious inventions that are patented through our agency. The fact that we have carefully studied these improvements during the process of preparing the patent papers, enables us to speak knowingly in regard to their best features. The publicity thus given to inventions, owing to the immense circulation of THE SCIENTIFIC AMERICAN among intelligent readers, is often of the utmost benefit to patentees. In some cases it has engaged the active coöperation of enterprising capitalists and manufacturers, in patents which otherwise would have remained dead, and has resulted in the most important pecuniary advantages to inventors and patentees, as hundreds of them are ready to testify; although the sum total of our charges for preparing their patent papers has rarely exceeded the small amount of twenty-five dollars. Whatever carping, jealous, or envious persons, or little agents, may say to the contrary, we are justified in affirming that all who really wish to promote their own interests will do well to employ THE SCIENTIFIC AMERICAN PATENT AGENCY.

PROPERTIES OF CHARCOAL.

ALTHOUGH charcoal is so combustible, it is, in some respects a very unchangeable substance, resisting the action of a great variety of other substances upon it. Hence posts are often charred before being put into the ground. Grain has been found in the excavations at Herculaneum, which was charred at the time of the destruction of that city, eighteen hundred years ago, and yet the shape is perfectly preserved, so that you can distinguish between the different kinds of grain. While charcoal is itself so unchangeable, it preserves other substances from change. Hence meat and vegetables are packed in charcoal for long voyages, and the water is kept in casks which are charred on the inside. Tainted meat can be made sweet by being covered with it. Foul and stagnant water can be deprived of its bad taste by being filtered through it. Charcoal is a great decolorizer. Ale and porter filtered through it are deprived of their color, and sugar-refiners decolorize their brown syrups by means of charcoal, and thus make white sugar. Animal charcoal, or bone-black, is the best for such purposes, although only one-tenth of it is really charcoal, the other nine-tenths being the mineral portion of the bone.

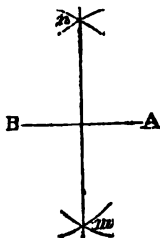
Charcoal will absorb, of some gases, from eighty to ninety times its own bulk. As every point of its surface is a point of attraction, it is supposed to account for the enormous accumulation of gases in the spaces of the charcoal. But this accounts for it only in part. There must be some peculiar power in the charcoal to change, in some way, the condition of a gas of which it absorbs ninety times its own bulk.—*Hooker.*

SUBSTITUTE FOR THE CRANK.

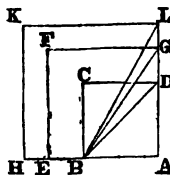
VARIOUS devices supposed to have advantages over the common crank, have been invented. Our diagram shows one of these forms, which has been re-invented many times, by different inventors. A grooved wheel is employed, and in the groove are two slides, attached respectively, by pivots, to the connecting rod of a piston rod. The reciprocating movement of the piston rod acting upon the connecting rod, causes the rotation of the wheel.

PRACTICAL GEOMETRY.

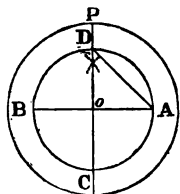
A KNOWLEDGE of geometry, both practical and theoretical, is of importance to mechanics and inventors. It is promotive of truth and patience in mental habits, and leads to the exercise of nicety and exactness in the execution of mechanical labors. With a pair of dividers, a rule and pencil, any person may speedily acquire a considerable knowledge of practical geometry. We subjoin a few simple and generally useful problems for practice, in the hope of thus interesting some of our readers in the subject, so that they will continue the study. Complete works on geometry can be had at the book-stores.



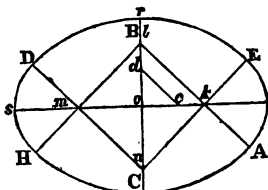
Problem 1.—To divide a line into equal parts.—To draw a line perpendicular to another: With a pair of dividers from the extremities of the line $A B$ as centres, with any distance exceeding the point where the line is to be intersected, describe arcs cutting each other as $m n$; then a line drawn through $m n$ will divide the line $A B$ equally, and will also be perpendicular thereto.



Problem 2.—To find the side of a square that shall be any number of times the area of a given square: Let $A B C D$ be the given square; then will the diagonal $B D$ be the side of a square $A E F G$, double in area to the given square $A B C D$; the diagonal $B D$ is equal to the line $A G$; if the diagonal be drawn from B to G , it will be the side of a square $A H K L$, three times the area of the square $A B C D$; the diagonal $B L$ will equal the size of a square four times the area of the square $A B C D$, etc.



Problem 3.—To find the diameter of a circle that shall be any number of times the area of a given circle: Let $A B C D$ be the given circle; draw the two diameters $A B$ and $C D$ at right angles to each other, and the cord $A D$ will be the radius of the circle $o P$, twice the area of the given circle nearly; and half the cord will be the radius of a circle that will contain half the area, etc.



Problem 4.—To describe an ellipsis, the transverse and conjugate diameters being given: From o , as a centre, with the difference of the transverse and conjugate semi-diameters, set off $o c$ and $o d$; draw the diagonal $c d$, and continue the line $o c$ to k , by the addition of half the diagonal $c d$, then will the distance $o k$ be the radius of the centres that will describe the ellipsis; draw the lines $A B, C D, C E$, and $B H$, cutting the semi-diameters of the ellipsis in the centres $k B m n$; then with the radius $m s$, and with k , and m as centres, describe the arcs $D H$ and $A E$; also, with the radius $n r$, and with n and B as centres, describe the arcs $E H$ and $A H$, and the figure $A E D H$ will be the ellipsis required.

THE "SCIENTIFIC AMERICAN."—"It is hardly necessary for us to speak of its merits to those who are thoroughly posted up in the improvements of the age; but the general reading public may not be so well aware that it contains the finest engravings of all the late inventions—the new monitors, army and navy weapons, vessels, forts, machinery of all kinds, military and civil, mechanical and agricultural—with essays from the most distinguished scholars upon prac-

tical philosophy, chemistry, and engineering. It is indispensable to every inventor. It is useful for every family and housewife. In short, it is the best scientific and mechanical journal in the world, and we cannot see how any chemist, architect, engineer, farmer, or mechanic can do without it. MUNN & Co., Publishers, 37 Park Row, New York."—*Cass County Republican*.

MECHANICAL MOVEMENTS.

In the construction of models, or machinery, the skillful mechanic and inventor will study to avoid clumsiness in the arrangement of parts, and will naturally take pride in selecting, as far as possible, the simplest and best forms of mechanical movements.

To this end, we have thought that nothing could be more suggestive or useful than a comprehensive exhibition of many of the best mechanical forms already known.

After much labor and expense, we have brought together, condensed and engraved expressly for this work, one of the most extensive series of mechanical movements ever before published.

Here the mechanic may find at a glance the movement suited for his purpose, and may see the separate parts best adapted to any special combination of mechanism.

As these engravings are not readily to be found elsewhere, we recommend the careful preservation of this book.

DESCRIPTION OF THE MECHANICAL MOVEMENTS BY NUMBERS.

1. Shaft coupling. 2. Claw coupling. 3, 4. Lever couplings. On the driving shaft, a disk with spurs is mounted, and to the shaft to be driven a lever is hinged. By causing this lever to catch in the spurs of the disk, the coupling is effected. 5. Knee or rose coupling, of which 26 is a side view.

6. Universal joint. 7, 8. Disk and spur coupling. 9. Prong and spur lever coupling.

10. Fast and loose pulley. 11. Sliding gear, the journal boxes of one of the wheels being moveable. 12. Friction clutch. By tightening or releasing a steel band, encircling a pulley on the shaft, the machinery is thrown in or out of

gear. 13, 14. Shoe and lever brakes. 15, 16. Change of motion by sheaves. 17. Spiral flanged shaft. 18. Connected with the rod are pawl links, catching into ratchet-teeth in the wheel to which rotary motion is to be imparted. When the rod moves in one direction, one of the pawls acts; and when the rod moves in the opposite direction, the other pawl acts in the same direction as the first. 19. The reciprocating motion of a rod is converted into rotary motion of the fly-wheel by a weight suspended from a cord, which passes over a small pulley that connects with a treadle, from which the motion is transmitted to the fly-wheel.

20. "Flying horse," used in fairs for amusement. By pulling the cords radiating from the crank, the persons occupying the seats or horses on the ends of the arms are enabled to keep the apparatus in motion. 21, 22. Bow string arrangements, to connect reciprocating into rotary motion. 23. Same purpose by differential screw. 24. The same by double rack and wheels. 25. Coupling for square shafts. 26. Side view of Fig. 5. 27. Sliding spur pulley coupling. 28. Lever with bearing roller to tighten pulley bands. 29. Chain wheel.

30. Reciprocating rectilinear into reciprocating rotary motion by two racks and cog wheel. 31. Oblique toothed wheels. 32. Worm and worm wheel. 33, 34. Claw coupling with hinged lever. 35, 36. Disk couplings, with lugs and cavities. 37. Disk coupling with screw bolts. 38, 39, 40. Shaft couplings.

41. Face view of Fig. 12. 42. Friction cones. 43. Friction pullies. 44. Self-releasing coupling. Disks with oblique teeth. If the resistance to the driven shaft increases beyond a certain point, the disks separate. 45. Hoisting blocks. 46. Elbow crank, for changing motion. 47. Reciprocating into rotary motion by zig-zag groove on cylinder. 48. Another form of Fig. 29. 49. Reciprocating into a rotary motion.

50. Same purpose. 51. Same purpose, by double rack and two ratchet pinions. When the double rack moves in one direction, one pinion is rigid with the shaft; when the rack moves in the opposite direction, the other pinion is rigid, and a continuous rotary motion is imparted to the fly-wheel shaft. 52. Reciprocating into oscillating. 53. Rotary into

reciprocating. By the action of the wheel pins, the carriage is moved in one direction, and by the action of said pins on an elbow-lever, it is moved in the opposite direction. 54. Stamp rod and lifting cam. 55. For giving reciprocating motion to rack. 56. Same motion to a bar with slot, by means of an eccentric pin projecting from a revolving disk, and catching in the slot. 57. Walking beam and fly-wheel. 58. Reciprocating motion to pump or other rod by means of eccentric disk and friction rollers. See 81 and 104. 59. Hoisting crane.

60. Friction gears. See 43. 61. Rotary into reciprocating by rising and falling pinion acting on endless rack. 62. By the revolving cam, a rising and falling or a reciprocating rectilinear motion is imparted to a drum. 63. Reciprocating motion to a frame by means of endless rack and pinion. 64. Reciprocating rectilinear motion to a toothed rack by a toothed segment on a lever-arm, which is subjected to the action of a weight, and of an eccentric wrist-pin, projecting from a revolving disk. 65. Reciprocating motion to a rod. The wheels are of different diameters, and consequently the rod has to rise and fall as the wheels revolve. (See 110.) 66. Cam and elbow lever. 67. Rod reciprocates by means of cam. 68. Revolving into reciprocating motion, by an endless segmental rack and pinion, the axle of which revolves and slides in a slot toward and from the rack. This rack is secured to a disk, and a rope round said disk extends to the body to which a reciprocating motion is to be imparted. 69. Elliptic gears.

70. Bevel gear. 71. Worm and worm wheel. 72. Transmitting motion from one axle to another, with three different velocities, by means of toothed segments of unequal diameters. 73. Continuous revolving into reciprocating, by a cam-disk acting on an oscillating lever. 74. Intermittent revolving motion to a shaft with two pinions, and segment gear wheel on end of shaft. 75. Oscillating lever, carrying pawls which engage teeth in the edges of a bar to which rectilinear motion is imparted. 76. Oscillating lever, connects by a link with a rod to which a rectilinear motion is imparted. 77. Oscillating lever and pawls, which gear in the ratchet-wheel. 78. Common treadle. 79. Describing on a revolving cylinder a spiral line of a certain given pitch.*

which depends upon the comparative sizes of the pinion and bevel-wheels.

80. Marking a spiral line, the graver moved by a screw. 81. (See Fig. 58.) 82. Plunger and rods. 83. Cross head and rods. 84. Reciprocating rod guided by friction rollers. 85. Revolving into reciprocating motion, by means of roller-arms, extending from a revolving shaft, and acting on lugs projecting from a reciprocating frame. 86. Crank motion. 87. Reciprocating motion by toothed wheel and spring bar. 88. The shaft carries a tapper, which catches against a hook hinged to the drum, so as to carry said drum along and raise the weight on the rope. When the tappet has reached its highest position, the hook strikes a pin, the hook disengages from the tappet, and the weight drops. 89. Reciprocating motion to a rod by means of a groove in an oblique ring secured to a revolving shaft.

90. Double crank. 91. Cam groove in a drum, to produce reciprocating motion. 92. Belts and pulleys. 93. Pulleys, belts, and internal gear. 94. As the rod moves up and down, the teeth of the cog-wheel come in contact with a pawl, and an intermittent rotary motion is imparted to said wheel. 95. By turning the horizontal axles with different velocities, the middle wheel is caused to revolve with the mean velocity. 96. Oscillating lever and cam groove in a disk. 97. Lazy tongs. 98. Oscillating segment and belt over pulleys. 99. Converting oscillating into a reciprocating motion by a cam-slot in the end of the oscillating lever which catches over a pin projecting from one of the sides of a parallelogram which is connected to the rod to which reciprocating motion is imparted.

100. Oscillating motion of a beam into rotary motion. 101. Motion of a treadle into rotary motion. 102. Double-acting beam. 103. Single-acting beam. 104. (See Figures 58 and 81.) 105. Device to steady a piston by a slotted guide-piece, operated by an eccentric on the driving-shaft. 106. Rod operated by two toothed segments. 107. Two cog-wheels of equal diameter, provided with a crank of the same length, and connected by links with a cross-bar to which the piston-rod is secured. 108. Device for a rectilinear motion of a piston-rod based on the hypocycloidal motion of a pinion in a stationary wheel with internal gear.

If the diameter of the pinion is exactly equal to one-half the diameter of the internal gear, the hypocycloid becomes a right line. 109. Same purpose as 56.

110. Action similar to 65. 111. Revolving motion by a circular sliding pinion gearing in an elliptical cog-wheel. 112. Similar to 96. 113. Carpenter's clamp. The jaws turn on their pivot-screws, and clamp the board. 114. An irregular vibratory motion is given to the arm carrying the wheel A, by the rotation of the pinion B. 115. Intermit- tent rotary motion of the pinion-shaft, by the continuous rotary motion of the large wheel. The part of the pinion shown next the wheel is cut on the same curve as the plain portion of the circumference, and, therefore, serves as a lock whilst the wheel makes a part of a revolution, and until the pin upon the wheel strikes the guide-piece upon the pinion, when the pinion-shaft commences another revolution. 116. Stop-motion used in watches to limit the number of revolutions in winding up. The convex curved part, a, b, of the wheel B, serving as the stop. 117. Several wheels, by connecting rods, driven from one pulley. 118. Intermittent circular motion is imparted to the toothed wheel by vibrating the arm B. When the arm, B, is lifted, the pawl is raised from between the teeth of the wheel, and traveling backward over the circumference again, drops between two teeth on lowering the arm, and draws with it the wheel. 119. Reciprocating rectilinear motion is given to the bar by the continuous motion of the cam. The cam is of equal diameter in every direction measured across its center.

120. Mechanism for revolving the cylinder in Colt's fire- arms. When the hammer is drawn back the dog, a, attached to the tumbler, acts on the ratchet, b, on the back of the cylinder, and is held up to the ratchet by a spring, c. 121. Alternate increasing and diminishing motion, by means of eccentric toothed wheel and toothed cylinder. 122. Oscillating or pendulum engine. The cylinder swings between trunnions like a pendulum. The piston-rod connects directly with crank. 123. Intermittent rotary motion. The small wheel is driven, and the friction rollers on its studs move the larger wheel by working against the faces of oblique grooves or projections across the face thereof. 124. Longitudinal and rotary motion of the rod is produced by

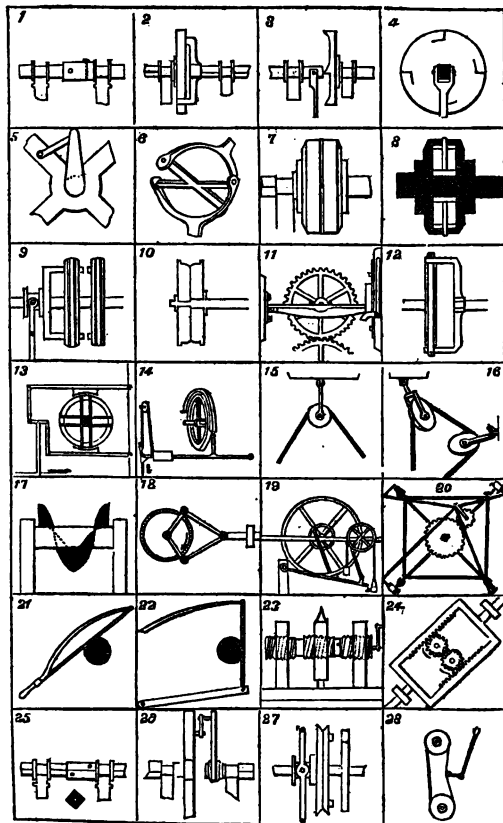
its arrangement between two rotating rollers, the axles of which are oblique to each other. 125. Friction indicator of Roberts. Upon the periphery of the belt-pulley a loaded carriage is placed, its tongue connected with an indicator. With a given load the indicating pointer remains in a given position, no matter what velocity is imparted to the pulley. When the load is changed the indicator changes, thus proving that the friction of wheels is in proportion to load, not velocity. 126. Circular intermittent rectilinear reciprocating motion. Used on sewing-machines for driving the shuttle; also on three-revolution cylinder printing-presses. 127. Continuous circular into intermittent circular motion. The cam is the driver. 128. Sewing-machine, four-motion feed. The bar, B, carries the feeding-points or spurs, and is pivoted to slide, A. B is lifted by a radial projection on cam C, which at the same time also carries A and B forward. A spring produces the return stroke, and the bar B, drops by gravity. 129. Patent crank motion, to obviate dead centers. Pressure on the treadle moves the slotted slide, A, forward until the wrist passes the center, when the spring, B, forces the slide against the stops until next forward movement.

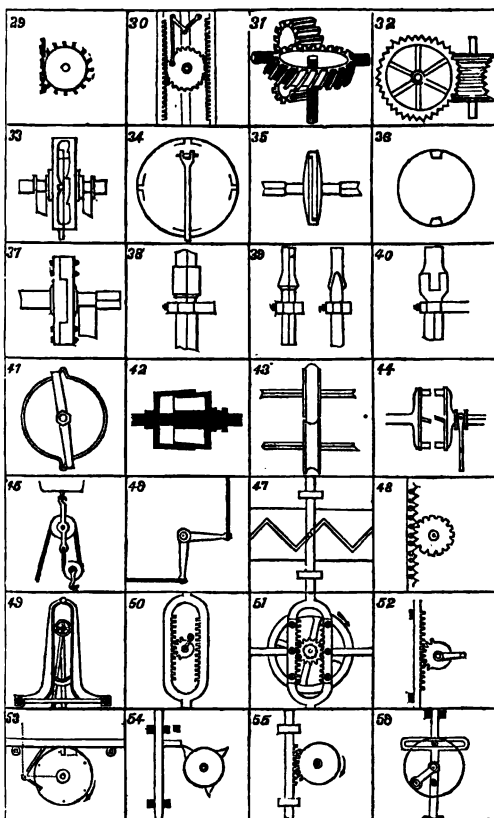
130. Four-way cock. 131. One stroke of the piston gives a complete revolution to the crank. 132. Rectilinear motion of variable velocity, is given to the vertical bar by rotation of the shaft of the curved arm. 133. Pantagraph for copying, enlarging, and reducing plans, etc. C, fixed point. B, ivory tracing point. A, pencil trace, the lines to be copied with, and B, the pencil, will re-produce it double size. Shift the slide to which C is attached, also the pencil slide, and size of the copy will be varied. 134. Ball and socket joint for tubing. 135. Numerical registering device. The teeth of the worm shaft gear with a pair of worm-wheels of equal diameter, one having one tooth more than the other. If the first wheel has 100 teeth and the second 101, the pointers will indicate respectively 101 and 10.100 revolutions. 136. Montgolfier's hydraulic ram. The right hand valve being kept open by a weight or spring, the current flowing through the pipe in the direction of the arrow, escapes thereby. When the pressure of the water current overcomes the weight of the right valve, the momentum of the water opens the other valve, and the water passes into the air-chamber. On

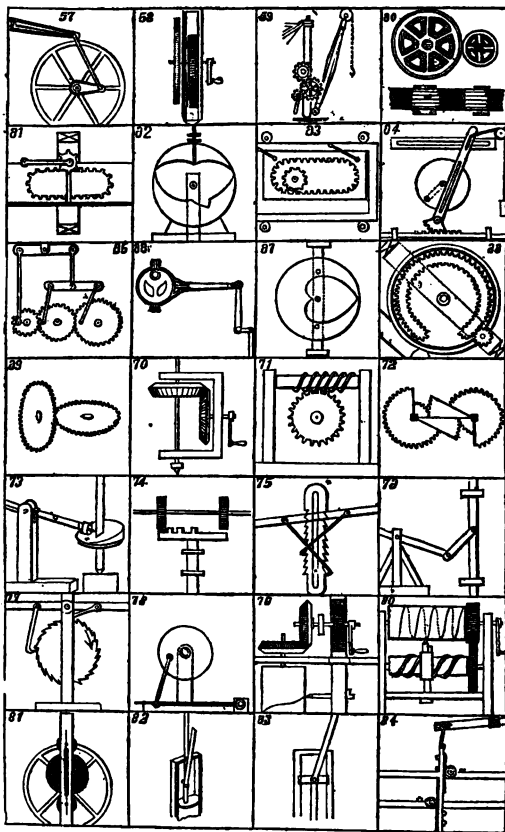
equilibrium taking place, the left valve shuts and the right valve opens. By this alternate action of the valves, water is raised into the air-chamber at every stroke. 137. Rotary engine. Shaft, B, and hub, C, are arranged eccentric to the case. Sliding radial pistons, a, a, move in and out of hub, C. The pistons slide through rolling packings in the hub, C. 138. Quadrant engine. Two single-acting pistons, B, B, connect with crank, D. Steam is admitted to act on the outer sides of the pistons alternately through valve a, and the exhaust is between the pistons. 139. Circular into rectilinear motion. The scolloped wheel communicates motion to the horizontal oscillating rod, and imparts rectilinear movement to the upright bar. 140. Rotary motion transmitted by rolling contact between two obliquely arranged shafts.

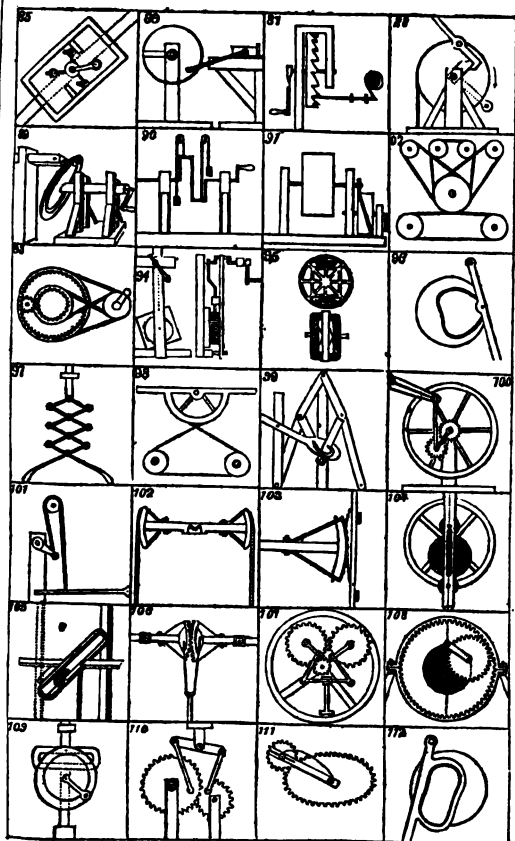
MULTUM IN PARVO.

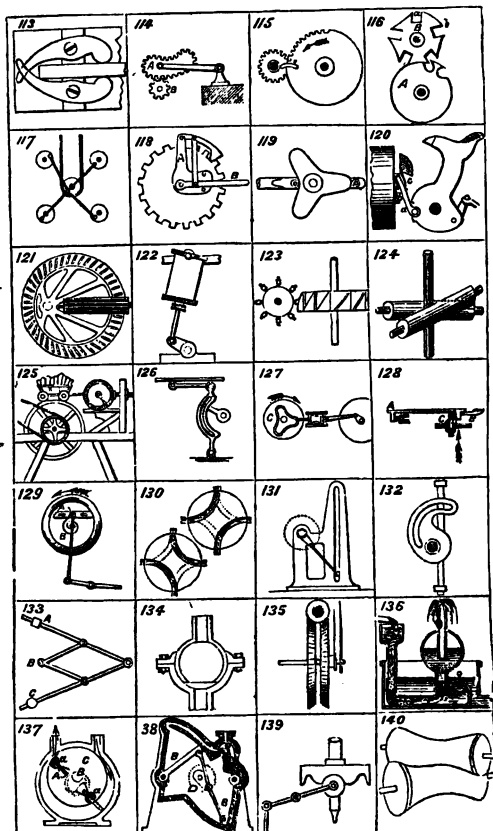
We have some queer correspondents: One writes to know if we will not be so good as to send a messenger to an address which he gives, up town—distance two and a half miles from our office—to make certain inquiries for him. It would require one and a half hours time to do the errand, and not a stamp inclosed. Another wants us to write a letter and tell him where to get a combined thermometer and barometer. Another, "will you be good enough to give me the names and addresses of several of the makers of the best brick machines;" another wants water wheels; another threshing machines; each writer desires our written opinion as to which is the best device, with our reasons, and not one is thoughtful enough to inclose a fee, or reflect that to answer his request will consume considerable of our time. Another party wishes us to write to him the recipe for making ornaments out of coal tar, where he can buy the mixture ready for use, and how much chequer-men will sell for in the New York market. For this information he sends us the generous sum of three cents in postage stamps. Mr. C. wants us to tell him of some valuable invention, of which he can buy the patent cheap, that would be suitable for him to take to sell, on his travels out West, by towns, counties, etc., three cents inclosed. Others want us to put them in communication with some person who will purchase an interest in their inventions, or manufacture for them, or furnish this or that personal information, our reply to be printed in the *Scientific American*. We are at all times happy to serve our correspondents, but if replies to purely personal errands are expected, a small fee, say from one to five dollars, should be sent.











WILL IT PAY?

On page 5, readers are informed that we are always happy to give them our opinion as to the novelty of their inventions, *without charge*. But some persons, when they send for such information, add many other inquiries, difficult to answer, and not included in our gratuitous invitation; as for example: "What is it worth? Who will buy? Will it pay? Does it infringe? Does it conflict with B's patent? If you will guarantee that it does not infringe, I will apply for a patent," etc.

It is impossible for us to answer all of these questions satisfactorily, but in special cases we might write out a reply if a fee were sent to compensate for our time. The following hints, however, may prove useful as a sort of general answer.

"What is it worth? Who will buy?" If a patent is refused, and cannot be obtained, the device is worth nothing, and no one will buy. Therefore the first thing to be considered, the first step to be taken, is to *obtain the Patent*. Do not count your chickens, nor anxiously seek a market for them, nor ask anybody to guarantee or insure their lives, before they are hatched.

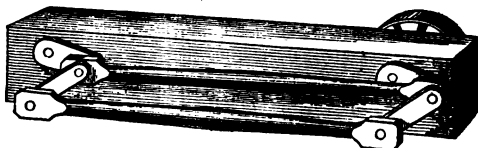
"Will it pay?" As a general rule, every patentable improvement will more than repay the small cost of taking out the patent. The sale of a single machine, or of a single right of use, will often bring back more than the whole outlay for the patent. The extent of profit frequently depends upon the business capacity of the inventor, or his agent. One man will make a fortune from an unpromising improvement, while another, possessing a brilliant invention, will realize little or nothing, owing to idleness and incompetence. [See remarks, page 42.]

"Does it infringe?" To answer this in each individual case, requires the special search mentioned at page 16. Infringement consists in the use, sale, or manufacture of the thing patented. It is not an infringement to take out or hold a patent for an improvement upon any other patent. It is not an infringement to sell rights under any patent, whether town, county or state rights, or licenses. The actual manufacture, sale, or use of an *article* may infringe; but the sale or purchase of *patent rights* is not infringement.

All good improvements are worth patenting, even if their use infringes a prior patent. Many an infringing device is worth more than the patent with which it conflicts. Patentees of conflicting inventions can usually make satisfactory arrangements with the owners of the prior patents; it is obviously to the interest of prior patentees to have their patents used as extensively as possible. The princely revenue of Howe, the inventor of the sewing machine, said to be five hundred thousand dollars annually, is derived from infringing patentees, who pay him a small royalty on each machine. The net profits divided among the owners of one of these infringing patents,—the celebrated Wheeler and Wilson—is reported to be more than one million dollars a year. We might give hundreds of analogous examples.

SUBSTITUTE FOR BELTS AND GEARS.

The object of this device is to transmit motion from one shaft to another, without the use of belt or gear wheels, both of which are in some instances objectionable.



Continuous rotary motion of the pulley shaft, is imparted to the secondary shaft through the connecting rods

STEAM PRESSURE AND TEMPERATURE.

Pressure in lbs. per sq. in.	Correspond'g Temperature, Fahrenheit.	Pressure in lbs. per sq. in.	Correspond'g Temperature, Fahrenheit.	Pressure in lbs. per sq. in.	Correspond'g Temperature, Fahrenheit.
10	192.4	65	301.3	140	357.9
15	212.8	70	306.4	150	363.4
20	228.5	75	311.2	160	368.7
25	241.0	80	315.8	170	373.8
30	251.6	85	320.1	180	378.4
35	260.9	90	324.3	190	382.9
40	269.1	95	328.2	200	387.3
45	276.4	100	332.0	210	391.5
50	283.2	110	339.2	220	395.5
55	289.3	120	345.8	230	399.4
60	295.6	130	352.1	240	403.1

[THIRD EDITION.]

ABSTRACT

OF THE

POPULATION OF THE UNITED STATES OF AMERICA.

CENSUS OF 1860.

MAINE.—Area, 31,766 square miles.

Andros's...28,728	Hancock...37,758	Lincoln...37,884	Piscataqua...18,032	Valde....36,447
Arroostook...22,479	Kennebec...55,555	Oxford...35,595	Sagadahok...31,799	Washington...42,535
Cumberland...75,592	Knox...32,719	Penobscot...72,731	Somerset...36,764	York.....33,107
Franklin...30,468	Total.....			679,376

NEW HAMPSHIRE.—Area, 9,280 square miles.

Bucksport...18,548	Cheshire...27,434	Grafton...42,259	Merrimack...4,408	Stratford...31,494
Carroll...20,464	Cook...13,162	Hillsboro'...62,140	Rock'ham...50,122	Sullivan...19,041
	Total.....			326,072

VERMONT.—Area, 10,212 square miles.

Addison...24,010	Chittenden...28,171	Grand Isle...4,296	Orleans...18,962	Windham...26,963
Bennings...19,435	Faer...5,788	La Moille...12,311	Rutland...35,949	Windsor...37,195
Caledonia...21,706	Franklin...37,241	Orange...25,455	Washington...27,514	Total...315,116

MASSACHUSETTS.—Area, 7,800 square miles.

Barnstable...35,990	Dukes...4,403	Hampden...57,585	Nantucket...5,094	Suffolk...192,701
Berkshire...55,120	Essex...165,610	Hampshire...37,624	Norfolk...109,950	Worcester...189,660
Bristol...95,795	Franklin...31,434	Middlesex...216,301	Plymouth...64,768	Total...1,231,065

RHODE ISLAND.—Area, 1,306 square miles.

Bristol...25,907	Kent...17,303	Newport...21,897	Providence...107,799	Washington...18,715
	Total.....			174,521

CONNECTICUT.—Area, 4,674 square miles.

Fairfield...77,478	Litchfield...47,817	N. Haven...97,347	Tolland...31,187	Windham...36,445
Hartford...66,964	Middlesex...32,953	N. London...57,423	Total.....	460,161

NEW YORK.—Area, 47,000 square miles.

Albany...115,519	Dutchess...64,935	Livingston...39,546	Oneida...50,165	Sturgen...56,639
Allegany...41,887	Essex...141,973	Madison...49,588	Potsdam...14,002	Suffolk...49,275
Broome...35,910	Faer...28,214	Monroe...106,659	Queens...57,391	Sullivan...32,335
Cattaraugus...43,697	Franklin...30,636	Montgomery...20,867	Rensselaer...66,326	Tioga...28,739
Cayuga...54,769	Fulton...24,162	N. York...613,668	Richmond...25,493	Tompkins...31,411
Chautauque...68,354	Genesee...32,169	Niagara...60,399	Rockland...22,492	Ulster...76,379
Chemung...26,917	Greene...31,990	Oneida...105,201	St. Lawrence...63,689	Warren...21,434
Chemung...40,536	Hamilton...5,024	Onondaga...50,687	Saratoga...51,732	Washington...145,009
Columbia...45,736	Herkimer...40,560	Ontario...44,565	Schenectady...20,002	Wayne...47,762
Columbia...47,250	Jefferson...69,928	Orange...63,614	Schoharie...24,469	Westchester...96,457
Cortland...26,299	Kings...279,125	Orleans...28,717	Schuyler...18,840	Wyoming...31,967
Delaware...42,457	Lewis...28,561	Oswego...75,960	Seneca...26,139	Yates...20,291
	Total.....			3,860,735

NEW JERSEY.—Area, 3,320 square miles.

Atlantic...11,786	Cumberland...22,605	Hunterdon...33,554	Morris...34,679	Somerset...22,067
Bergen...21,816	Essex...68,875	Mercer...37,411	Ocean...11,176	Sussex...23,855
Burlington...49,730	Gloucester...18,444	Middlesex...34,810	Pasquo...29,013	Warren...28,434
Camden...34,457	Hudson...62,717	Monmouth...39,345	Salem...22,458	Union...37,781
Cape May...7,130	Total.....			675,081

PENNSYLVANIA.—Area, 46,000 square miles.

Adams...38,015	Centre...37,106	Franklin...42,126	McKean...5,859	Snyder...15,053
Allegheny...176,835	Chester...74,678	Fulton...9,131	Mercer...36,557	Somerset...26,794
Armstrong...85,797	Clarion...24,994	Greene...24,343	Mifflin...18,341	Sullivan...5,637
Berks...29,144	Cleaveland...18,758	Haut'gdon...26,101	Monroe...16,759	Susquehanna...36,267
Berks...26,737	Citron...17,725	Indiana...33,687	Montgomery...70,500	Toga...31,044
Berks...93,819	Columbia...25,055	Jefferson...18,269	Montour...13,063	Union...14,145
Blair...27,629	Crawford...48,755	Junata...16,968	Northampton...47,304	Venango...25,044
Bradford...48,735	Cumberland...40,098	Lancaster...16,515	North'd...26,592	Warren...19,190
Bucks...63,578	Dauphin...46,757	Lawrence...22,999	Perry...22,794	Washington...146,804
Butler...35,596	Delaware...30,597	Lebanon...31,631	Philad'ia...565,631	Wayne...32,379
Cambria...29,166	Elk...5,915	Lehigh...43,764	Pike...7,165	Westm'd...53,736
Cameron...49,431	Erie...49,431	Luzerne...90,343	Potter...11,470	Wyoming...12,540
County...Fayette...30,909	Lycoming...37,398	Schuylkill...89,515	York...68,209	Total...2,966,370
Carbon...21,033	Forest...596			

DELAWARE.—Area, 2,120 square miles.

Kent...27,801	Newcastle...64,800	Sussex...26,517	Total.....	112,218
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MARYLAND.—Area, 11,124 square miles.

Alleghany..38,349	Carroll.....94,593	Frederick.....40,778	Montgomery..18,323	Somerset.....24,993
Anne Arundel..25,901	Cecil.....23,603	Harford.....25,415	Prince Geo.....23,377	Talbot.....14,708
Baltimore.....265,564	Charles.....16,517	Howard.....13,336	Qo. Anne.....15,961	Wash'ton.....31,414
Calvert.....10,447	Dorchester..20,461	Kent.....13,267	St. Mary's..15,134	Worcester.....20,681
Caroline.....11,129	Total.....		867,084

DISTRICT OF COLUMBIA.—Area, 60 square miles.

Washington.....75,075
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VIRGINIA.—Area, 61,352 square miles.

Aaccomack..18,586	Culpepper..15,064	Iale of W't 9,977	New Kent.....5,564	Rock'g'm.....23,405
Albemarle..26,625	Cumbe'r'd..9,961	Jackson.....8,306	Nicholas.....4,626	Russell.....10,180
Alexander..12,552	Dinwiddie..20,198	Jas. City.....8,798	Norfolk.....36,155	Scott.....12,672
Alleghany..6,786	Dedridge..6,303	Jefferson..14,578	North'pton..7,522	Shenand'h..13,596
Amelia.....10,745	Elia. City..6,789	Kanawha..16,150	North'head..1,580	Smith.....6,525
Amherst.....13,743	Essex.....10,499	K'g & Q'n..10,831	Wottawa.....6,856	South'pton..13,914
Appomattox..8,887	Fairfax.....11,836	King Geo.....6,571	Ohio.....23,422	Spottly'a..18,976
Augusta.....27,750	Fauquier..21,704	King Wm..6,529	Orange.....10,768	Stafford.....8,546
Barbour.....8,969	Fayette.....5,997	Laanaster..6,151	Page.....6,109	Surry.....6,133
Bath.....3,676	Floyd.....6,236	Lee.....11,032	Patrick.....8,259	Sussex.....10,178
Bedford.....26,068	Fluvanna..10,363	Lewis.....7,969	Pendleton..6,186	Taylor.....7,465
Berkeley.....12,522	Franklin..20,098	Logan.....4,938	Pittsylv'a..23,104	Tazewell.....5,320
Boone.....4,840	Greene.....6,926	Mason.....21,772	Pleasant.....9,948	Tucker.....1,426
Botetourt..11,516	Giles.....6,863	Louis.....16,698	Pocahontas..3,968	Tyler.....6,617
Braxton.....4,992	Glimmer....3,769	Lunenburg..11,984	Powhatan..8,891	Upshur.....7,262
Brooke.....5,404	Glowcester..10,966	McDowell..1,536	Preston.....13,313	Warren.....6,422
Brunswick..14,511	Goochland..10,666	Madison.....8,864	Pr'ce Ed'd..11,944	Warwick.....1,749
Buahanan..2,793	Grayson...8,262	Marion.....12,721	Pr'ce Geo..6,410	Wash'ton..16,993
Buck'ham..16,312	Greenbrier..12,310	Marshall..13,001	Pr'ce Wm..6,566	Wayne.....6,747
Cabell.....6,520	Greene.....6,926	Mason.....21,772	Pr'ce A's..7,714	West'm'd..1,566
Calhoun.....5,502	Greenville..8,374	Mathews.....1,691	Pulaski.....6,416	West'm'd..8,282
Campe'll..26,197	Halifax.....36,521	Meck'l'b'g..20,096	Putnam.....8,301	Wetzel.....6,798
Caroline.....18,466	Hampsh'r..13,913	Meeror.....6,618	Raleigh.....3,967	Wirt.....8,751
Carroll.....8,012	Hancock....4,445	Middlesex..4,364	Randolph..4,990	Wise.....4,606
Cas. City..6,609	Hanover.....17,226	Monong's..13,048	Rappah'k..8,580	Wood.....11,699
Charlotte..14,469	Hardy.....9,864	Monroe.....10,767	Richmond..6,586	Wyoming..2,825
Charles'd..15,417	Harrison..18,799	Morgan.....10,618	Richie.....5,847	Wythe.....13,963
Clarke.....14,161	Henrico.....26,816	Morton.....8,731	Roane.....6,863	York.....4,946
Clay.....1,787	Henry.....12,105	Nansemd'..13,693	Roanoke.....6,648	
Craig.....5,563	Highland..4,319	Nelson.....13,016	Rock'b'd'g..17,200	Total..1,506,079

NORTH CAROLINA.—Area, 50,704 square miles.

Alamance..11,563	Cherokee...6,166	Halifax.....19,441	Mc'len'g'..17,374	Rowan.....14,586
Alexander..6,022	Chowan.....6,842	Harnett.....6,039	Montg'ry..7,649	Rutherford..11,573
Alleghany..5,690	Cleveland..12,948	Haywood....6,801	Moore.....11,427	Sampson.....16,622
Anson.....13,664	Columbus..8,597	Henderson..10,448	Nash.....11,689	Stamly.....7,601
Ashe.....7,966	Craven.....16,773	Hertford...9,604	N. Han'v'is..4,498	Stokes.....10,493
Beaufort..14,779	Cumbe'r'd..16,369	Hyde.....7,724	North'p'al..576	Surry.....10,575
Bertie.....14,311	Currituck..7,416	Iredell.....16,347	Onslow....8,566	Tyrrel.....4,949
Bladen.....11,966	Davidson..16,801	Jackson.....6,526	Orange.....16,949	Union.....11,268
Brunswick..5,406	Davie.....6,494	Johnson....15,657	Pasquotank..8,940	Wake.....26,227
Buncombe..12,664	Duplin.....14,798	Jones.....6,739	Perquimans..7,948	Warren.....15,736
Burke.....8,237	Edgecomb..17,376	Lenoir.....16,211	Person.....11,221	Wash'ton..6,367
Cabarrus..10,646	Forsyth....12,661	Lillington..6,265	Pitt.....16,080	Watauga..4,367
Caldwell..7,492	Franklin..14,110	Lincoln.....6,106	Folk.....4,453	Wayne.....14,606
Camden.....8,543	Gaston.....6,310	McDowell..7,120	Randolph..16,793	Wilkes.....14,749
Carteret...6,185	Gates.....6,444	Macon.....6,004	Richmond..11,009	Wilson.....9,730
Caswell.....10,315	Granville..23,396	Madison.....6,906	Robeson....15,490	Yadkin.....10,718
Catawba..10,739	Greene.....7,926	Martin.....10,189	Rock'gh'..16,746	Yancey.....6,826
Chatham...10,106	Gulfport...20,056	Total.....	992,667

SOUTH CAROLINA.—Area, 29,385 square miles.

Abbeville..32,385	Chester'd..11,534	Georgetown..21,505	Lexington..15,579	Richland.....16,334
Adams.....22,573	Clerendon..13,099	Greenville..21,891	Marion.....21,190	Spartan'g..26,290
Barrowell..30,743	Colleton...30,916	Horry.....7,964	Marlboro'..12,634	Sumter.....32,860
Beaufort..40,062	Darlington..20,343	Kershaw..13,198	Newberry..20,578	Union.....19,635
Beaufort..51,106	Edgefield..26,687	Lancaster..11,737	Orange'b'g..24,636	Williams'g..16,699
Chester.....16,123	Fairfeld...22,111	Laurens....22,886	Pickens....19,639	York.....30,263
Total.....			703,265

GEORGIA.—Area, 58,000 square miles.

Appling.....4,190	Bulloch....4,889	Catoosa....5,692	Clayton....4,406	Dade.....2,689
Baker.....4,986	Burke.....17,186	Charlton....1,780	Clinch.....3,068	Dawson....1,923
Baldwin....9,078	Butte.....4,465	Chatham...31,043	Cobb.....14,241	Decatur....11,257
Banks.....4,707	Calhoun....4,913	Chattooga..7,166	Coffee.....2,579	De Kalb...7,807
Bertie.....4,471	Camden....5,420	Chatraha'..6,806	Colwellt...1,316	Dooley.....8,916
Bibb.....16,261	Campbell...6,301	Charlee....11,261	Columbia..11,860	Dorchester..8,268
Brooks.....6,866	Carroll....11,991	Clarke.....11,926	Coweta....14,708	Early.....6,156
Bryan.....4,013	Cass.....15,734	Clay.....4,893	Crawford..7,993	Echols.....1,491

Elkham...4,786	Harris....12,756	Madison...8,983	Pulaski...8,744	Town...2,489
Elmer....10,453	Hart....6,137	Marion...7,360	Putnam...16,180	Troup....16,359
Emmett...8,091	Heard....7,926	Merritt...18,329	Quitman...8,499	Turkey....8,359
Faasels...8,140	Henry....10,703	Miller....1,791	Rabus...8,371	Union....4,413
Fayette...7,047	Houston...16,613	Milton....4,492	Randolph...8,471	Upson....9,910
Floyd....15,186	Irwin....1,699	Mitchell...4,306	Richmond...21,264	Walker....10,082
Forryth...7,749	Jackson...10,005	Monroe....16,953	Schley....4,633	Walton....11,072
Franklin...7,393	Jasper....10,743	Montgomery...2,907	Scriven...8,274	Ware....2,300
Fulton....14,327	Jefferson...10,319	Morgan....9,956	Spaulding...5,669	Warren....9,226
Gilmer....8,722	Johansen...2,919	Murray....1,653	Stewart...15,426	Washington...12,006
Glascock...2,637	Jones....9,107	Muscogee...16,364	Sumter....8,426	Wayne....2,369
Glynn....3,690	Laurens...6,906	Newton...14,323	Talbot....13,617	Webster....8,030
Gordon....10,146	Lee.....7,178	Oglethorpe...11,549	Taliaferro...4,663	White....8,314
Greene...12,649	Liberty....8,309	Paulding...7,036	Tatnall....4,362	Whitfield...10,047
Gwinnett...12,946	Lincols...8,466	Pickens....4,951	Taylor....6,000	Wilcox....2,116
Habersham...3,966	Lowndes...8,349	Pierce....1,673	Telfair....2,713	Wills...11,426
Hall....8,366	Lumpkin...4,626	Pike....10,066	Terrell....6,287	Wilkinson...8,576
Hancock...12,044	McIntosh...8,646	Folk....8,390	Thomas...18,787	Worth....2,763
Harrison...2,626	Marens...6,449	Total.....		1,067,329

FLORIDA.—Area, 59,268 square miles.

Alachua...8,334	Kecambia...8,786	Jackson...16,180	Marion...8,810	Sumter....1,649
Brevard...246	Franklin...1,904	Jefferson...9,876	Monroe...2,912	Suwanee....1,396
(St. Lucie)	Gadsden...9,396	Lafayette...2,066	Nassau...8,654	Taylor....1,364
Calhoun...1,446	Hamilton...4,164	Leon....12,333	New River...4,655	Volusia....1,158
Clay....1,914	Hernando...1,300	Levy....1,782	Orange....987	Wakulla....2,638
Columbia...4,737	(De Soto)	Liberty....1,457	Putnam....2,712	Walton....8,067
Dade....88	Hillabore...1,961	Madison...7,778	St. John's...4,030	Washington...2,154
Duval....5,066	Holmes...1,366	Manatee...834	Santa Rosa...6,481	Total....146,439

ALABAMA.—Area, 50,722 square miles.

Autauga...16,739	Clarke....16,049	Hauk(dropped)	Marion...11,180	St. Clair...11,019
Baldwin...7,533	Coffee....9,622	Henry....14,917	Marshall...11,472	Shelby....12,618
Barbour...30,815	Conecuh...11,311	Jackson...16,264	Mobile....4,131	Sumter....24,626
Benton(dropped)	Coosa....10,272	Jefferson...11,744	Monroe...16,699	Talladega...23,529
Bibb....11,494	Covington...6,469	Lauderdale...12,420	Montgomery...36,905	Tallapoosa...23,527
Bloount...10,955	Dale....12,327	Lawrence...18,976	Morgan....11,331	Tuscaloosa...23,592
Butler....18,123	De Kalb...35,626	Limestone...18,304	Perry....27,727	Walker....7,960
Calhoun...21,639	De Kalb...35,626	Lowndes...27,718	Pickens...22,319	Washington...2,154
Chambers...23,214	Fayette...12,650	Macon....26,234	Pike....24,436	Wilcox....24,616
Cherokee...18,390	Franklin...16,626	Madison...26,450	Randolph...20,056	Winston....3,676
Choctaw...16,897	Greene...30,859	Marengo...31,194	Russell....26,593	Total....964,296

MISSISSIPPI.—Area, 47,156 square miles.

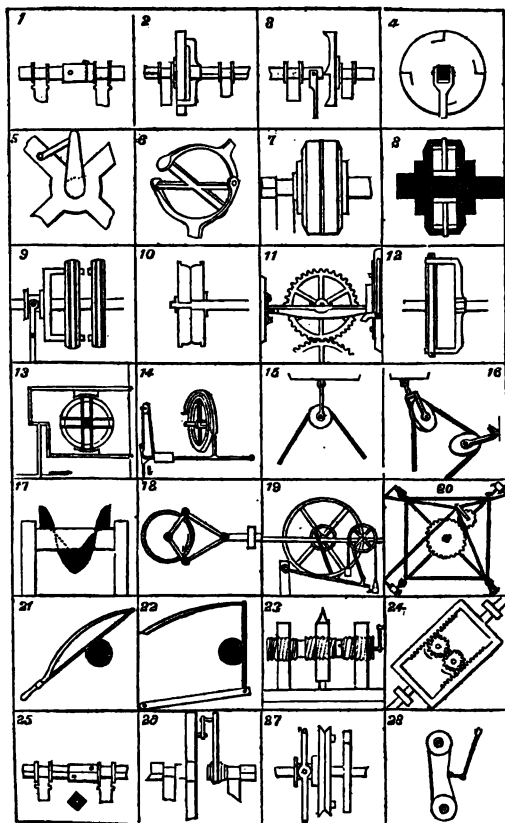
Adams....20,165	Covington...4,406	Jefferson...16,349	Neshoba...6,343	Sunflower...8,019
Amite....12,396	De Soto...22,326	Jones....3,323	Newton...9,661	Tallahatchie...7,992
Attala....14,168	Franklin...8,266	Kemper....11,063	Noxubee...20,666	Tippah....22,560
Bolivar....10,471	Greene....2,232	La Fayette...1,156	Okfuskee...12,963	Tishomingo...34,148
Calhoun...9,616	Hancock...9,139	Lauderdale...12,313	Panola....18,794	Tusculum....4,567
Carroll...22,038	Harrison...4,619	Lawrence...9,212	Perry....9,606	Warren....20,710
Chickasaw...16,426	Hinds....31,342	Leake....9,324	Pike....11,135	Washington...16,579
Choctaw...16,740	Holmes...17,794	Lowndes...23,626	Pontotoc...22,114	Wayne....5,691
Claiborne...16,690	Iaquena...7,831	Madison...23,962	Rankin...13,637	Wilkinson...1,536
Clarke....10,771	Itawamba...17,696	Marion....4,666	Scott....8,140	Winston....9,611
Coshocton...8,606	Jackson...4,122	Marshall...26,820	Simmons...6,660	Yalobusha...16,060
Copiah...16,399	Jasper....11,007	Monroe...21,263	Smith....7,636	Yazoo....22,373
Total.....				791,396

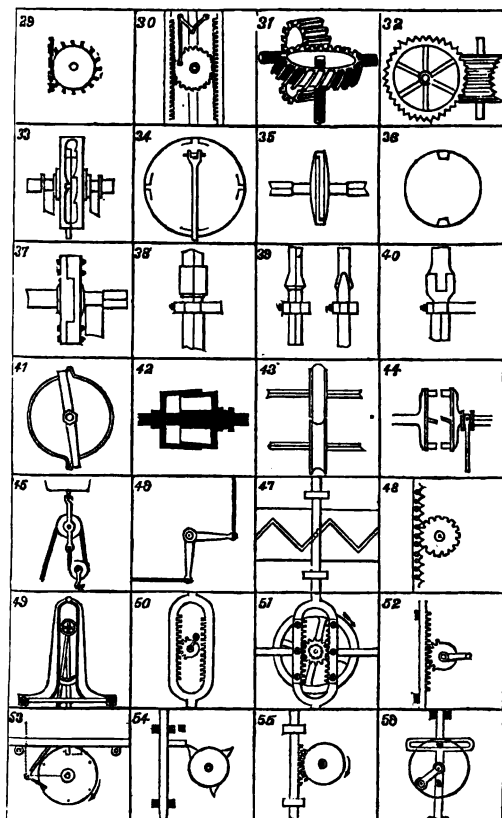
LOUISIANA.—Area, 41,265 square miles.

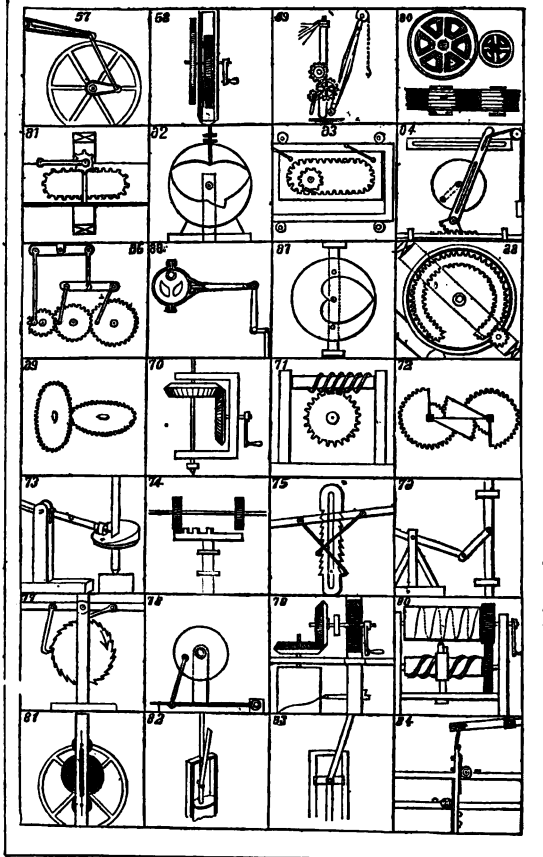
Ascension...11,465	Cattell....15,053	Jefferson...25,372	Rapides...25,860	St. Tammany...5,406
Assumpion...15,379	Catahoula...11,652	La Fayette...9,003	Sabine....8,628	Texas....16,696
Avoyelles...15,196	Claiborne...16,846	La Fourche...14,044	St. Bernard...4,076	Terre Boe...12,000
B. Boeg...7,312	Concordia...13,905	Livingston...4,431	St. Charles...5,997	Union....10,309
B. Boeg...7,312	De Soto...13,299	Madison...14,133	St. Helena...7,130	Vermilion...4,324
Bienville...11,006	Felicé...E. 14,696	Morehouse...10,367	St. James...11,604	Washita....4,727
Boeuf....12,638	Felicé...W. 11,671	Natchitoches...16,897	St. J's Bap...7,932	Washington...4,708
Cade....12,140	Franklin...5,193	Orleans...174,268	St. Landry...25,106	Winn...5,676
Calcasieu...8,922	Iberville...14,681	Piquemine...4,026	St. Martin...12,677	Opelousas...23,104
Caldwell...4,673	Jackson...9,213	Pt. Coupee...7,790	St. Mary's...16,812	Total....799,390

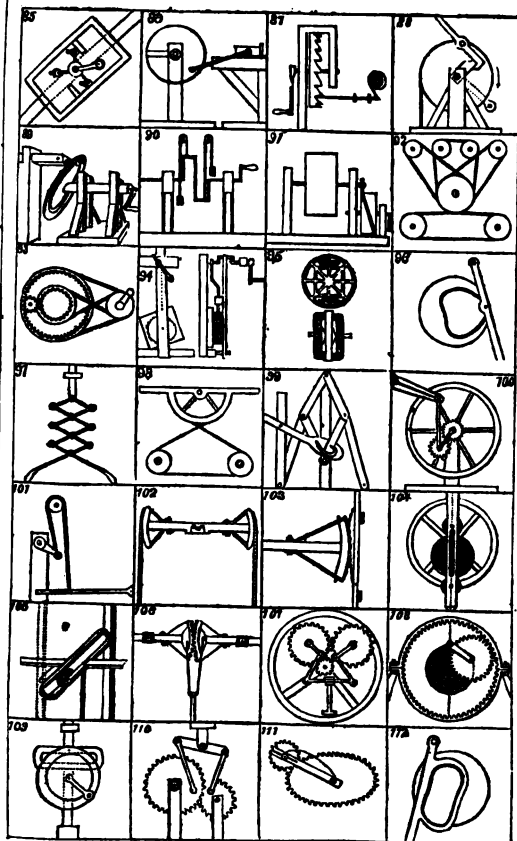
TEXAS.—Area, 237,504 square miles.

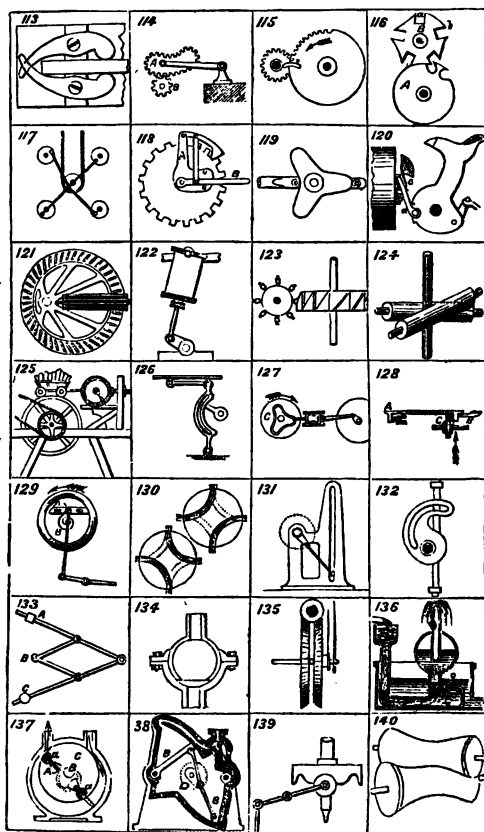
Anderson...10,397	Bell....4,800	Burleson...5,663	Clay.....109	Culbuck(not or.)
Angelica...4,371	Bexar....14,464	Burnett...5,488	Coleman(not or.)	Dallas....8,665
Archer(not or.)	Blaque....1,281	Calahan(not or.)	Collins...9,266	Dawson....261
Atascosa...1,686	Bosque....2,005	Caldwell...4,481	Colorado...7,885	DeWitt....5,030
Austin...10,169	Bowie....8,052	Calhoun...2,642	Comal....4,070	De Witt....5,107
Banders...299	Brasoria...7,143	Cameras...8,630	Comanche...709	Dimitt(not or.)
Bastrop...8,796	Brazos....2,776	Cass....8,411	Cochran(not or.)	Duval(not or.)
Bayler(not or.)	Brown...244	Chambers...1,508	Cook....2,760	Eastland....99
Bee....910	Buchanan...230	Cherokee...12,096	Coryell....2,666	Edwards(not or.)











WILL IT PAY?

On page 5, readers are informed that we are always happy to give them our opinion as to the novelty of their inventions, *without charge*. But some persons, when they send for such information, add many other inquiries, difficult to answer, and not included in our gratuitous invitation; as for example: "What is it worth? Who will buy? Will it pay? Does it infringe? Does it conflict with B's patent? If you will guarantee that it does not infringe, I will apply for a patent," etc.

It is impossible for us to answer all of these questions satisfactorily, but in special cases we might write out a reply if a fee were sent to compensate for our time. The following hints, however, may prove useful as a sort of general answer.

"What is it worth? Who will buy?" If a patent is refused, and cannot be obtained, the device is worth nothing, and no one will buy. Therefore the first thing to be considered, the first step to be taken, is to *obtain the Patent*. Do not count your chickens, nor anxiously seek a market for them, nor ask anybody to guarantee or insure their lives, before they are hatched.

"Will it pay?" As a general rule, every patentable improvement will more than repay the small cost of taking out the patent. The sale of a single machine, or of a single right of use, will often bring back more than the whole outlay for the patent. The extent of profit frequently depends upon the business capacity of the inventor, or his agent. One man will make a fortune from an unpromising improvement, while another, possessing a brilliant invention, will realize little or nothing, owing to idleness and incompetence. [See remarks, page 42.]

"Does it infringe?" To answer this in each individual case, requires the special search mentioned at page 16. Infringement consists in the use, sale, or manufacture of the thing patented. It is not an infringement to take out or hold a patent for an improvement upon any other patent. It is not an infringement to sell rights under any patent, whether town, county or state rights, or licenses. The actual manufacture, sale, or use of an *article* may infringe; but the sale or purchase of *patent rights* is not infringement.

MARYLAND.—Area, 11,124 square miles.

Allegany.....28,542	Carroll.....24,532	Frederick.....40,775	Montgo'y.....18,822	Somerset.....24,993
Anne Arundel.....23,901	Cecil.....23,863	Harford.....22,416	Prince Geo.....23,377	Talbot.....14,738
Baltimore.....266,554	Charles.....16,617	Howard.....13,838	Qu. Anne.....16,981	Wash'gton.....31,414
Calvert.....10,447	Dorchester.....20,461	Kent.....13,267	St. Mary's.....16,124	Worcester.....20,661
Carrollae.....11,129	Total.....			287,924

DISTRICT OF COLUMBIA.—Area, 60 square miles.

Washington.....	75,078
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VIRGINIA.—Area, 61,352 square miles.

Accomack.....18,586	Culpepper.....12,064	Iale of W't.....9,977	New Kent.....6,684	Rock'g'm.....23,408
Albemarle.....26,625	Cumberl'd.....9,961	Jackson.....8,308	Nicholas.....4,626	Russell.....10,180
Alexander.....12,652	Dinwiddie.....30,196	Jas. City.....6,796	Norfolk.....26,166	Scott.....12,672
Allegany.....6,786	Doddricks.....6,263	Jefferson.....14,676	North'pton.....7,632	Shenand'h.....13,666
Amelia.....10,753	Edin. City.....6,798	Kanawha.....16,150	North'land.....6,680	Smyth.....6,565
Amherst.....13,743	Essex.....10,469	K'g & Q'n.....10,331	Pottoway.....6,656	South'pton.....9,914
Appomattox.....8,837	Fairfax.....11,836	King Geo.....6,571	Ohio.....23,423	Spottly'a.....14,078
Augusta.....37,780	Fauquier.....21,704	King Wm.....8,529	Orange.....10,706	Stafford.....8,548
Barbour.....8,906	Payette.....5,997	Lancaster.....6,151	Page.....6,199	Surry.....6,133
Bath.....3,676	Floyd.....6,236	Lee.....11,032	Patrick.....8,260	Sussex.....10,178
Bedford.....26,068	Fluvanna.....10,363	Lewis.....7,990	Pendleton.....6,166	Taylor.....7,463
Berkeley.....12,652	Franklin.....20,098	Logan.....4,538	Pittsylv'a.....25,104	Tazewell.....8,520
Boone.....4,840	Frederick.....16,547	London.....21,772	Pleasants.....9,945	Tucker.....1,626
Botetourt.....11,616	Giles.....6,893	Louisia.....16,636	Pocahontas.....3,666	Tyler.....6,417
Braxton.....4,992	Glimmer.....3,769	Lunenburg.....11,864	Powhatan.....8,301	Upshur.....7,292
Brooke.....5,494	Glowcester.....10,936	McDowell.....1,635	Preston.....13,312	Warren.....6,423
Brunsuick.....14,311	Goochland.....10,666	Madison.....8,864	Price Ed'd.....11,844	Warwick.....1,740
Buchanan.....2,788	Grayson.....5,282	Marion.....12,731	Price Geo.....8,410	Wash'gton.....16,893
Buck'ham.....16,312	Greenbrier.....12,210	Marshall.....13,091	Price Wm.....8,666	Waynes.....6,747
Cabell.....8,622	Greene.....6,626	Mason.....8,166	Price's A.....7,714	Webster.....1,656
Calhoun.....2,602	Greenville.....6,374	Mathews.....7,091	Pulaski.....8,416	Westm'd.....6,235
Campbell.....26,197	Hallfax.....26,621	Meckl'b'g.....20,096	Putnam.....6,301	Weston.....8,766
Caroline.....18,466	Hampsh'r.....13,913	Mercer.....6,618	Raleigh.....3,967	Wirt.....3,761
Carroll.....8,013	Hancock.....4,445	Middlesex.....4,364	Randolph.....4,990	Wise.....4,666
Chas. City.....5,609	Hanover.....17,226	Monong'a.....13,048	Rappah'k.....8,660	Wood.....11,490
Charlotte.....14,609	Hardy.....9,664	Monroe.....10,767	Richmond.....8,666	Wyoming.....2,266
Chester'd.....19,017	Harrison.....13,730	Montgo'y.....10,613	Ritchie.....6,647	Wythe.....13,360
Clarke.....7,144	Henrico.....6,616	Montgo'y.....8,731	Rome.....6,863	York.....6,949
Clay.....1,787	Henry.....12,106	Nansemd'g.....13,663	Rosnoke.....8,648	Total.....1,596,797
Craig.....2,553	Highland.....4,319	Nelson.....13,016	Rock'b'dge.....17,260	

NORTH CAROLINA.—Area, 50,704 square miles.

Alamance.....11,868	Cherokee.....6,106	Hallfax.....19,441	McClen'g.....17,374	Rowan.....11,496
Alexander.....6,022	Chowan.....6,842	Harnett.....8,039	Montgo'y.....7,649	Rutherford.....11,673
Alleghany.....3,690	Cleveland.....12,348	Haywood.....6,801	Moore.....11,427	Sampson.....16,822
Anson.....15,664	Columbus.....6,697	Henderson.....10,448	Nash.....11,666	Staten.....7,691
Ashe.....7,666	Craven.....16,373	Hertford.....6,604	N. Han'v'ria.....4,936	Stokes.....10,462
Beaufort.....14,779	Cumberland.....10,360	Hyde.....7,724	North'p'ta.....15,576	Surry.....10,376
Bertie.....14,311	Currituck.....7,416	Iredell.....16,547	Onslow.....6,666	Tyrrol.....4,943
Bladen.....11,996	Davidson.....16,601	Jackson.....6,526	Orange.....16,949	Union.....11,363
Branswick.....8,406	Davis.....6,494	Johnson.....16,667	Pasquotank.....5,940	Wake.....6,267
Bruncombe.....12,664	Duplin.....16,798	Jones.....6,739	Perquimans.....7,946	Warren.....13,736
Burke.....9,267	Edgecomb.....17,376	Lenoir.....10,311	Person.....11,231	Wash'gton.....6,367
Cabarrus.....10,666	Forsyth.....12,691	Lillington.....6,266	Pitt.....16,060	Watkins.....4,867
Caldwell.....7,492	Franklin.....14,110	Lincoln.....6,156	Polk.....4,058	Waynes.....14,666
Canden.....8,543	Gaston.....8,210	McDowell.....7,126	Randolph.....16,736	Wilkes.....14,716
Carteret.....6,186	Gates.....6,444	Macon.....6,064	Richmond.....11,006	Wilson.....9,736
Caswell.....16,216	Granville.....23,306	Madison.....6,906	Robeson.....16,460	Yadkin.....10,716
Catawba.....10,736	Greene.....7,926	Martin.....10,169	Rock'gh'm.....16,746	Yancey.....8,646
Chatham.....19,106	Guliford.....20,066	Total.....		992,897

SOUTH CAROLINA.—Area, 29,885 square miles.

Abbeville.....22,366	Chester'd.....11,884	Georgeto'n.....21,305	Lexington.....16,379	Richland.....16,324
Anderson.....22,872	Clarendon.....19,099	Greenville.....21,891	Marion.....31,189	Spartanb'g.....26,329
Barrowell.....20,743	Colleton.....30,916	Horry.....7,964	Marlboro'.....12,424	Sumter.....22,666
Beaufort.....40,062	Darlington.....20,845	Kershaw.....15,169	Newberry.....20,579	Union.....14,636
Charleston.....21,106	Edgfield.....20,667	Lancaster.....11,797	Orange'b'g.....24,666	Willm'b'g.....16,469
Chester.....16,123	Fairfeld.....22,111	Laurens.....22,666	Pickens.....16,639	York.....22,663
Total.....				703,216

GEORGIA.—Area, 58,000 square miles.

Appling.....4,190	Bulloch.....5,666	Catoosa.....6,062	Clayton.....4,466	Dade.....3,669
Baker.....4,906	Burke.....17,166	Charlton.....11,780	Clinch.....3,063	Dawson.....3,567
Baldwin.....9,076	Bute.....6,466	Chatham.....31,643	Cobb.....14,341	Decatur.....11,923
Banks.....4,797	Calhoun.....4,913	Chattooga.....7,166	Collee.....2,379	De Kalb.....7,807
Bertie.....16,391	Camden.....5,430	Chatthab'g.....6,806	Cowlett.....1,316	Dooley.....8,916
Bibb.....16,391	Campbell.....6,391	Cherokee.....11,291	Columbia.....11,900	Dougherty.....8,266
Brooks.....6,386	Carroll.....11,991	Clarke.....11,366	Coweta.....14,706	Early.....6,166
Bryan.....4,013	Cass.....15,724	Clay.....4,663	Crawford.....7,663	Evale.....1,491

Elkham...4,786	Harris....13,786	Madison... 8,933	Palaaki... 8,744	Towne.... 2,408
Elmer....10,453	Hart.... 6,187	Marion.... 7,980	Palaani...10,180	Troup....10,266
Emmett... 8,931	Hend... 7,926	Merriett...15,329	Quinn... 8,499	Tufts.... 5,520
Faas... 6,140	Henry....10,702	Miller.... 1,791	Rabus... 9,271	Union.... 4,413
Fayette... 7,047	Houston...10,613	Milton.... 4,802	Randolph... 8,871	Upson.... 8,919
Floyd....15,196	Irwin.... 1,600	Mitchell... 4,306	Richmond...21,264	Walker....10,063
Forsyth... 7,749	Jackson...10,605	Monroe....10,953	Schley.... 4,633	Walton....11,072
Franklin... 7,293	Jasper....10,743	Montgomery... 2,907	Scriven.... 5,274	Ware.... 3,280
Fulton....14,427	Jefferson...10,319	Morgan.... 9,998	Spaulding... 5,669	Warren.... 9,220
Gilmer.... 6,722	Johnson... 2,919	Murray.... 7,053	Stewart....13,428	Washington...12,595
Glascock... 2,437	Jones.... 9,107	Muscogee...10,894	Sumter.... 8,426	Wayne.... 2,288
Glynn.... 3,880	Laurens... 6,988	Newton....14,323	Talbot....13,617	Webster... 8,630
Gordon....10,146	Lee..... 7,176	Oglethorpe...11,549	Taliaferro... 4,663	White.... 3,314
Greene....12,648	Liberty.... 8,369	Paulding... 7,038	Tatnall.... 4,352	Whitfield...10,047
Gwinnett...12,948	Lincoln... 4,466	Pickens.... 4,951	Taylor.... 6,000	Wilcox.... 3,118
Habersham... 3,966	Lowndes... 5,240	Pierce.... 1,973	Telfair.... 2,713	Wilkes....11,426
Hall.... 8,366	Lumpkin... 4,626	Pike..... 10,068	Terrill.... 6,287	Wilkinson... 5,276
Hancock...12,044	McIntosh... 6,646	Polk..... 6,293	Thomas....10,787	Worth.... 2,783
Harrison... 2,628	Macon.... 6,440	Total.....		1,057,323

FLORIDA.—Area, 59,268 square miles.

Alachua... 6,534	Kecambia... 5,788	Jackson...10,190	Marion.... 8,610	Sumter....1,649
Brevard... 246	Franklin...1,904	Jefferson... 9,876	Monroe.... 2,912	Suwanee....1,388
Calhoun...1,446	Gadsden... 9,396	Lafayette... 2,068	Nassau... 3,054	Taylor....1,364
Clay....1,914	Hamilton... 4,164	Leon....12,335	New River... 4,655	Volusia....1,158
Columbia... 4,737	Hernando... 1,300	Levy.... 1,782	Orange.... 987	Wakulla.... 2,658
Dade.... 58	Henry.... 1,961	Liberty.... 1,487	Palm Beach... 2,712	Walton.... 8,067
Deval.... 5,095	Hillsboro... 2,961	Madison... 7,779	St. John's... 8,030	Washington... 2,154
	Holmes....1,386	Manatee... 854	Santa Rosa... 4,481	Total....146,435

ALABAMA.—Area, 50,722 square miles.

Autauga...10,730	Clarke....16,049	Hauk (dropped)	Marion....11,180	St. Clair...11,019
Barlow... 7,533	Coffee.... 9,623	Henry....14,917	Marshall...11,473	Shelby....12,618
Barbour...30,815	Conecuh...11,311	Jackson...16,284	Mobile....41,131	Sumter....24,026
Benton (dropped)	Coosa....10,772	Jefferson...11,744	Monroe....16,609	Talladega...23,526
Bibb....11,494	Covington... 6,469	Lauderdale...12,420	Montgomery...36,908	Tallapoosa...23,927
Bloount...10,965	Dale....12,227	Lawrence...13,976	Morgan....11,331	Tuscaloosa...23,292
Butler....18,122	Dallas....33,626	Limestone...18,304	Perry....27,737	Walker.... 7,830
Calhoun... 21,639	De Kalb...10,706	Lowndes... 27,718	Pickens....22,319	Washington... 4,660
Chambers...22,214	Fayette....12,650	Macon....26,234	Pike..... 24,436	Wilcox....24,618
Cherokee...18,380	Franklin...16,626	Madison...26,450	Randolph...30,069	Winston.... 3,676
Choctaw...16,897	Greene....30,859	Marengo...31,194	Russell....26,593	Total....964,298

MISSISSIPPI.—Area, 47,156 square miles.

Adams....20,165	Covington... 4,408	Jefferson...16,949	Neshoba... 6,343	Sunflower... 6,019
Amite....12,326	De Soto...22,336	Jones.... 3,723	Newton.... 9,681	Tallahatchie...7,992
Autauga...14,168	Franklin... 4,266	Kemper....11,062	Noxubee...20,668	Tippah....22,560
Bolivar....16,471	Greene.... 2,232	La Fayette...12,962	Okfuskee...12,962	Tishomingo...34,148
Calhoun... 9,618	Hancock... 6,139	Lauderdale...12,313	Panola....13,794	Tunica.... 4,267
Carroll...22,028	Harrison... 4,619	Lawrence... 9,313	Perry.... 9,008	Warren....20,710
Chickasaw...16,426	Hinds....31,342	Leake.... 9,324	Pike.....11,135	Washington...15,679
Choctaw...16,740	Holmes....17,794	Lowndes...23,626	Pontotoc...22,114	Wayne.... 3,891
Clatsburg...16,690	Iscuena... 7,821	Madison...23,382	Rankin....13,637	Wilkinson...16,735
Clarke....10,771	Itawamba...17,696	Marion.... 4,686	Scott.... 6,140	Winston.... 9,611
Coahoma... 6,606	Jackson... 4,122	Marshall...26,820	Simpson... 6,860	Yalobusha...16,060
Copiah....16,399	Jasper....11,007	Monroe....21,268	Smith.... 7,636	Yazoo....22,378
				Total....191,536

LOUISIANA.—Area, 41,255 square miles.

Ascension...11,465	Carroll....15,053	Jefferson...16,372	Rapides...22,800	St. Tamary... 5,408
Assumption...15,379	Catahoula...11,632	La Fayette... 9,003	Sabine.... 8,828	Texas....16,668
Averyelle...12,106	Clatsburg...16,846	La Fourche...14,044	St. Bernard... 4,076	Terre Boe...12,000
B. Eong... 16,016	Concordia...13,805	Livingston... 4,431	St. Charles... 5,297	Union....10,300
B. Eong W... 7,312	De Soto...13,299	Madison...14,133	St. Helena... 7,130	Vermilion... 4,294
Bienville...11,000	Felic... 14,696	Morehouse...10,367	St. James...11,604	Washita.... 4,737
Boeuf....12,628	Felic... W.11,671	Natchitoches...16,897	St. J'n Bapt...7,932	Washington... 4,708
Cade....12,140	Franklin... 6,192	Orleans....174,268	St. Landry...25,100	Winn... 5,676
Calcasieu... 8,928	Iberville...14,681	Piquemine... 4,092	St. Martin...12,677	Opelousas...23,104
Caldwell... 4,833	Jackson... 9,812	P't Coupee...7,736	St. Mary's...16,812	Total....700,290

TEXAS.—Area, 237,504 square miles.

Anderson...10,397	Bell.... 4,800	Burleson... 5,683	Clay..... 109	Culbuck (not or.)
Angelica... 4,371	Bexar....14,464	Burnett... 2,486	Coleman (not or.)	Dallas.... 8,665
Archer (not or.)	Blaque.... 1,281	Calahan (not or.)	Collins... 9,268	Dawson.... 281
Attacosta... 1,680	Bosque... 2,005	Caldwell... 4,481	Colorado... 7,865	DeWitt.... 5,030
Asotin....16,139	Bowie.... 2,602	Calhoun... 2,642	Comal.... 4,079	De Witt.... 5,107
Bandera... 829	Brasoria... 7,143	Cameron... 6,630	Comanche... 799	Dimmitt (not or.)
Bastrop... 8,796	Brazos.... 2,776	Cass.... 8,411	Concho (not or.)	Duval (not or.)
Baylor (not or.)	Brown... 244	Chambers...1,506	Cook.... 2,760	Eastland.... 99
Bee..... 910	Buchanan... 230	Cherokee...12,006	Coryell.... 2,066	Edwards (not or.)

Kills.....5,246	Haskell (not or.)	La Salle (not or.)	Nueces.....2,907	Throckmorn 124
El Paso.....4,061	Hayes.....2,068	Lavaca.....5,948	Orange.....1,918	Titus.....8,648
Encinal.....43	Henderson.....4,606	Leon.....6,781	Palo Pinto.....1,524	Travis.....5,899
Erath.....2,456	Hidalgo.....1,193	Liberty.....3,169	Panola.....8,476	Trinity.....4,692
Falls.....5,014	Hill.....3,683	Limestone.....4,587	Parker.....4,214	Tyler.....4,646
Fannin.....6,217	Hopkins.....7,745	Llano.....1,101	Polk.....6,386	Upshur.....16,545
Fayette.....11,004	Houston.....8,928	Llano.....1,101	Presidio.....280	Uvalde.....598
Fort Bend.....6,143	Hunt.....6,654	McLennan.....6,206	Red River.....6,534	Van Zandt.....3,778
Freestone.....6,881	Jack.....1,600	M'Nul'n (not or.)	Refugio.....1,594	Victoria.....5,775
Frio.....40	Jackson.....2,612	Madison.....2,238	Robertson.....4,937	Walker.....5,191
Galveston.....8,177	Jasper.....4,041	Marion.....3,979	Ru'ells (not or.)	Washington.....15,218
Gaudalupe.....5,444	Jefferson.....1,994	Mason.....636	Rusk.....15,536	Webb.....1,446
Gillespie.....2,736	Johnson.....4,305	Matagorda.....2,910	Sabine.....2,730	Wharton.....3,309
Goliad.....3,383	Jones.....(not or.)	Maverick.....728	San Aug'e.....4,034	Wichita (not or.)
Gonzales.....8,930	Karnes.....2,171	Medina.....1,838	San Patricio.....610	Wilb'r (not or.)
Grayson.....8,187	Kaufman.....3,936	Menard (not or.)	San Saba.....913	Williams'a.....4,926
Grimes.....10,307	Kemmer (not or.)	Milam.....5,175	Shackelford.....44	Wise.....5,166
Hamilton.....469	Kerr.....634	Montague.....849	Shelby.....5,393	Wood.....6,568
Hard'as'aster or.)	Kinney.....61	Montgomery.....5,479	Smith.....13,338	Yang.....825
Hardin.....2,355	Knox.....(not or.)	Nacogdoches.....5,253	Starr.....5,206	Zapata.....1,948
Harris.....7,710	Lamar.....10,156	Navarro.....5,997	Tarrant.....6,003	Zavalla.....35
Harrison.....15,001	Lampasas.....1,928	Newton.....3,123	Taylor (not or.)	Total.....602,432

ARKANSAS.—Area, 52,198 square miles.

Arkansas.....8,844	Crawford.....7,800	Izard.....7,215	Newton.....3,303	Saline.....6,640
Ashley.....8,590	Crittenden.....4,919	Jackson.....10,493	Perry.....3,405	Scott.....6,148
Benton.....9,305	Dallas.....8,287	Jefferson.....14,977	Phillips.....14,878	Searcy.....6,271
Bradley.....8,588	Desha.....6,458	Johnson.....7,612	Pike.....4,076	Sebastian.....6,296
Calhoun.....4,103	Drew.....9,079	La Fayette.....8,466	Polk.....5,922	Seyler.....10,416
Carroll.....9,363	Franklin.....7,299	Lawrence.....9,349	Polk.....5,922	Union.....13,206
Chicot.....9,231	Fulton.....4,024	Madison.....1,740	Pepe.....7,817	Van Buren.....5,367
Clark.....9,733	Greene.....3,844	Marion.....6,192	Prairie.....8,834	Washington.....14,673
Columbia.....2,461	Hempstead.....13,991	Mississippi.....3,895	Pulaski.....11,700	Washington.....13,936
Conway.....6,698	Hot Spring.....6,635	Monroe.....5,657	Randolph.....6,261	White.....6,316
Craighead.....3,096	Independence.....14,308	Montgomery.....3,633	St. Francis.....8,673	Yell.....6,323
	Total.....			Total.....620,432

TENNESSEE.—Area, 45,600 square miles.

Anderson.....7,068	De Kalb.....10,573	Henderson.....14,491	Marshall.....14,592	Smith.....9,123
Bedford.....21,584	Dickson.....3,982	Henry.....19,133	Marshall.....14,592	Shaw.....10,261
Benton.....8,463	Dyer.....10,586	Hickman.....9,512	Meigs.....4,667	Sheriff.....16,367
Bledsoe.....4,459	Fayette.....24,329	Humphreys.....9,100	Monroe.....12,617	Stewart.....9,895
Bloom.....13,727	Fentress.....6,634	Jackson.....11,725	Montgomery.....20,896	Sullivan.....13,563
Bradley.....11,701	Franklin.....13,848	Jefferson.....16,042	Morgan.....3,353	Sumner.....23,089
Campbell.....6,712	Gibson.....2,783	Johnson.....8,018	Obion.....12,817	Tipton.....10,704
Cannon.....9,599	Giles.....26,166	Knox.....22,812	Overton.....12,637	Union.....6,117
Carroll.....17,518	Granger.....10,992	Lauderdale.....7,662	Perry.....6,013	Van Buren.....5,281
Carter.....7,134	Greene.....18,964	Lawrence.....9,319	Polk.....8,736	Warren.....11,147
Chatham.....7,258	Grundy.....3,094	Lewis.....2,241	Putnam.....8,538	Washington.....14,546
Clatsop.....9,644	Hamilton.....13,259	Lincoln.....22,828	Rhea.....4,911	Wayne.....9,118
Coeke.....10,408	Hancock.....7,021	McMinn.....13,563	Roane.....13,635	Weakley.....10,216
Coffee.....9,689	Hardeman.....17,769	McNairy.....14,732	Robertson.....15,265	White.....9,261
Cumber'nd's.....460	Hardin.....11,214	Macon.....7,290	Rutherford.....27,918	Will'nsen.....23,627
Davidson.....47,054	Hawkins.....16,141	Madison.....21,535	Scott.....3,519	Wilson.....26,073
Decatur.....6,227	Haywood.....19,292	Macon.....6,190	Squatchie.....2,136	Total.....1,186,437

KENTUCKY.—Area, 37,680 square miles.

Adair.....9,560	Clark.....11,484	Harris.....6,894	McCrackin.....10,530	Pike.....7,264
Allen.....9,187	Clay.....6,532	Harrison.....13,779	McLean.....6,146	Powell.....2,257
Anderson.....7,404	Clinton.....5,781	Hart.....10,348	Madison.....17,207	Pulaski.....17,208
Ballard.....8,603	Crittenden.....8,796	Henderson.....14,262	Magee.....3,494	Rock Castle.....3,243
Barren.....16,665	Cumberland.....7,340	Henry.....11,960	Marion.....12,005	Rowan.....2,262
Bath.....12,113	Daviess.....15,549	Hickman.....7,011	Marshall.....6,994	Russell.....6,424
Boone.....11,197	Edmondson.....4,647	Hopkins.....11,876	Mason.....18,223	Scott.....14,417
Bourbon.....14,822	Edwards.....6,886	Jackson.....5,687	Meade.....8,836	Seely.....13,136
Boyd.....6,044	Fayette.....22,509	Jefferson.....89,405	Mercer.....12,711	Simpson.....8,146
Boyle.....9,305	Fleming.....12,458	Jessamine.....9,466	Metcalf.....6,745	Spencer.....4,188
Bracken.....11,021	Floyd.....6,368	Johnson.....5,306	Monroe.....8,641	Taylor.....7,491
Breathitt.....4,989	Franklin.....12,693	Kenton.....25,467	Montgomery.....7,890	Todd.....11,475
Breckin'rd's.....15,297	Fulton.....5,317	Knox.....7,707	Morgan.....8,236	Trigg.....11,023
Bullitt.....7,269	Gallatin.....5,056	La Rue.....6,591	Muhlen'g.....7,719	Trimble.....6,258
Butler.....14,822	Garrard.....10,590	Jackson.....5,468	Nelson.....18,861	Union.....13,136
Caldwell.....9,318	Grant.....8,536	Lawrence.....7,691	Nicholas.....13,636	Warren.....17,266
Callaway.....9,915	Graves.....16,234	Letcher.....3,504	Ohio.....12,236	Washington.....11,673
Campbell.....20,909	Grayson.....7,982	Lewis.....8,361	Oldham.....7,236	Wayne.....13,950
Carroll.....6,578	Green.....8,805	Lincoln.....10,646	Owen.....12,711	Webster.....7,432
Carter.....8,516	Greenup.....8,759	Livingston.....7,202	Owsley.....8,236	Whitley.....7,792
Cass.....6,405	Hancock.....6,213	Logan.....19,021	Pendleton.....16,449	Woodford.....11,296
Christian.....21,528	Hardin.....15,190	Lyon.....6,309	Perry.....2,539	Total.....1,186,713

OHIO.—Area, 39,984 square miles.

Adams....30,309	Darke.....36,309	Hecking....17,069	Miami.....29,909	Sandusky..21,147
Allen.....19,180	Defiance...11,898	Holmes.....20,589	Monroe....25,743	Scioto.....24,397
Ashland...22,951	Delaware...25,912	Huron.....20,589	Montgo'ry..22,233	Seneca.....30,599
Ashland...21,814	Erie.....34,478	Jackson....17,941	Morgan.....22,117	Shelby....17,493
Athens....21,501	Fairfield...20,589	Jefferson...25,117	Norwalk....20,445	Stark.....15,978
Auglaize...17,125	Fayette....18,938	Knox.....37,735	Musking'm...4,417	Summit....27,340
Belmont...34,432	Franklin...50,373	Lake.....15,576	Noble.....20,751	Trumbull..20,556
Brown....20,556	Fulton.....14,044	Lawrence...25,254	Ottawa.....7,617	Tuscar'w...22,463
Butler....20,540	Gallia.....22,045	Licking....37,011	Paulding...4,845	Union.....15,507
Carroll...15,738	Geauga.....15,817	Logan.....20,997	Perry.....19,079	Van Wert..16,236
Champ'ign..22,088	Greene.....20,197	Lorain.....20,745	Pickaway...23,489	Vinton....15,631
Clark.....21,501	Guernsey...24,474	Lucas.....25,531	Pike.....13,443	Warren....25,006
Clermont...22,007	Hamilton...21,411	Madison....12,015	Portage....24,206	Washington..25,371
Cleves.....31,423	Hancock...22,056	Mahoning...25,505	Preble.....21,620	Wayne....25,433
Columbi'a..22,538	Hardin.....13,509	Marion.....15,409	Putnam.....12,805	Williams..16,022
Coshocton...20,522	Harrison...19,109	Medina.....22,517	Richland...21,186	Wood.....17,506
Crawford...22,509	Henry.....8,901	Meigs.....25,534	Ross.....25,071	Wyandot...16,556
Cuyahoga...28,628	Highland...27,774	Mercer.....14,105	Total.....2,390,599	

MICHIGAN.—Area, 56,243 square miles.

Alcona.....186	Delta.....1,179	Kalamazoo...24,545	Miss'h'e(not or.)	Ottawa.....12,215
Alcona.....16,057	Kalamazoo...16,478	Kalamazoo(not or.)	Montcalm..2,958	Presque Isle 26
Alcona.....200	Emmett.....1,148	Keokuk.....20,715	Montcalm..2,958	Rose'm't(not or.)
Ashtabula...179	Genesee....22,405	Lake.....(not or.)	Montcalm..2,958	Saginaw...12,009
Barry.....13,166	Grand Travi..14	Leelanaw...2,126	Muskegon...2,947	St. Clair...25,092
Bay.....2,164	Grand Travi..1,288	La Peere....14,754	Necota.....970	St. Joseph..21,392
Berrien....22,276	Gratiot.....4,043	Leauwee...25,112	Newaygo...2,761	Sanilac....7,001
Branch....20,581	Hillsdale...25,075	Livingston...16,062	Oakland....26,391	Schlaewald..2,749
Calhoun....25,463	Houghton...9,235	Macomb.....22,443	Ocean.....1,816	Schoolcraft..96
Cass.....17,721	Huron.....2,166	Manistee....975	Ogem'w(not or.)	Tuscola....4,899
Charlevoix...617	Ingham....17,435	Manitowish..1,043	Ontonagon..4,568	Van Buren..22,4
Chippewa...1,405	Ionia.....16,829	Marquette...2,831	Oscoda.....27	Washtaw...25,656
Clare.....(not or.)	Iscoco.....175	Mason.....831	Oscoda.....(not or.)	Wayne....25,545
Cleves.....13,916	Isabella....1,443	Michilim'ie 1,996	Otsego.....(not or.)	Wyandot...16,556
Crawford...22,509	Jackson....25,671	Midland.....787	Total.....749,112	

INDIANA.—Area, 33,809 square miles.

Adams.....9,574	Fikhart....20,991	Jefferson...25,539	Noble.....14,915	Stark.....2,195
Allen.....28,327	Fayette....10,186	Jennings...14,734	Ohio.....4,492	Stearns...10,374
Barthol'm...17,945	Floyd.....20,182	Johnson...14,855	Orange.....15,076	Sullivan...15,093
Benton....2,610	Fountain...16,567	Knox.....15,056	Owen.....14,376	Switzerland..15,088
Bischofford..4,122	Franklin...19,550	Kosciusko...17,424	Parke.....18,586	Tippacan...25,755
Boone.....15,754	Fulton.....9,421	La Grange...11,555	Perry.....11,540	Tipton.....8,171
Brown....6,547	Gibson....14,532	Lake.....9,143	Pike.....10,079	Union.....7,110
Carroll....13,609	Grant.....15,779	La Porte....22,921	Porter.....10,314	Vanderburg..25,544
Cass.....16,443	Greene....16,043	Lawrence...12,093	Posey.....16,198	Vermillion..4,428
Clarke.....20,506	Hamilton...17,310	Madison....16,614	Pulaski....8,711	Vigo.....22,519
Clay.....12,160	Hancock...12,501	Marion.....20,556	Putnam....25,081	Wabash....17,547
Clinton....14,506	Harrison...18,431	Marshall...12,722	Randolph...18,997	Warren....10,097
Crawford...8,206	Hendricks..16,853	Martin.....8,976	Ripley.....10,053	Warrior....15,353
Daviess....13,341	Henry.....20,118	Miami.....16,851	Rush.....16,193	Washington..17,520
Dearborn...24,406	Howard....15,924	Monroe....12,648	St. Joseph..15,446	Wayne....25,545
Decatur....17,204	Hunting'g...14,808	Montgo'ry..20,899	Scott.....7,204	Wells.....10,894
De Kalb....15,890	Jaacksen...16,288	Morgan.....18,110	Shelby....19,571	White.....8,253
Delaware...15,759	Jasper.....4,292	Newton....2,300	Spencer....14,566	Whitley....10,721
Dubois....10,394	Jay.....11,359	Total.....1,350,591		

ILLINOIS.—Area, 55,405 square miles.

Adams.....41,322	De Witt....10,519	Jackson....9,569	Macoupin...15,726	Pulaski....8,560
Alexander...4,208	Douglas...7,140	Jasper.....15,374	Macoupin...24,492	Putnam....1,587
Bond.....8,613	Du Page....14,711	Jefferson...12,965	Madison...21,215	Randolph...17,295
Bureau....11,675	Edgar.....16,926	Jersey.....12,053	Marion....12,723	Richland...9,711
Brown....9,936	Edwards...5,464	Jo Davies...27,777	Marshall...15,437	Rock Isl'...23,205
Bureau....25,429	Elmham....7,616	Johnson...9,342	Mason.....10,823	St. Clair...27,594
Calhoun....5,145	Fayette....11,198	Kane.....30,068	Massac....5,214	Saline.....5,581
Carroll....11,733	Ford.....1,979	Kankakee...14,418	Menard....9,506	Sangamon...22,555
Cass.....12,022	Franklin...9,732	Landall....15,074	Merou.....6,043	Schuyler....14,531
Champ'ign..22,088	Fulton....25,320	Knox.....25,623	Monroe....12,823	Scott.....9,070
Christian...10,493	Gallatin...8,054	Lake.....15,205	Montgo'ry..15,592	Shelby....14,634
Clark.....14,997	Greene....16,093	La Salle...45,393	Morgan....22,113	Stark.....9,004
Clay.....9,336	Grady....10,379	Lawrence...9,214	Moultrie...5,396	Stephens...25,115
Cleves.....16,941	Hamilton...8,918	Lee.....17,621	Ogle.....22,597	Tazewell...21,471
Coleman....14,599	Hancock...25,081	Livingston...15,028	Peoria.....25,400	Union.....11,125
Cook.....14,422	Franklin...9,732	Landall....15,074	Peoria.....6,559	Vermilion...14,531
Crawford...11,561	Henderson...8,501	McDon'g...20,089	Piatt.....6,127	Wabash....7,213
Cumberland..8,311	Henry.....20,555	McHenry...22,599	Pike.....27,349	Warren....15,236
De Kalb....10,008	Iroquois...12,324	McLea.....25,749	Pepe.....6,743	Washington..25,371

Wayne.....12,233 Whiteside.....16,740 Will'mson.....12,205 Winnab'go.....24,492 Woodford.....15,233
 White.....12,408 Will.....29,321 Total.....1,711,753

WISCONSIN.—Area, 53,924 square miles.

Adams.....4,497 Adams.....48,992 Jefferson.....20,771 Oconto.....3,500 Shawano.....8,539
 Ashland.....513 Dodge.....42,810 Juneau.....8,704 Outagamie.....5,596 Sheboygan.....26,549
 Bad Ax.....11,012 Door.....2,948 Kenosha.....13,516 Ozaukee.....16,574 St. Croix.....6,396
 Brown.....11,797 Douglas.....828 Kewaunee.....5,530 Pepin.....2,397 Trempleau.....2,440
 Buffalo.....3,865 Dunn.....2,723 La Crosse.....12,194 Pierce.....4,673 Walworth.....26,580
 Burnett.....12 Eau Claire.....3,184 La Fayette.....18,141 Polk.....1,412 Washburn.....28,595
 Calumet.....7,686 F'd du Lac.....4,155 La Pointe.....672 Portage.....7,504 Waushara.....26,549
 Chippewa.....1,895 Grant.....31,207 Manitowoc.....22,356 Racine.....31,240 Waupaca.....6,555
 Clark.....789 Green.....19,831 Marathon.....2,934 Richland.....6,737 Waubesa.....6,772
 Columbia.....24,445 Gr'n Lake.....12,631 Marquette.....6,236 Rock.....36,892 Winneb'go.....23,706
 Crawford.....6,071 Iowa.....18,998 Milwaukee.....62,504 Sauk.....16,894 Wood.....3,428
 Dallas.....13 Jackson.....4,171 Monroe.....8,308 Total.....775,973

IOWA.—Area, 50,914 square miles.

Adair.....934 Clarke.....5,497 Hamilton.....1,699 Madison.....7,388 Sac.....948
 Adams.....1,533 Clay.....82 Hancock.....179 Mahaska.....14,816 Scott.....26,989
 Almahack.....12,236 Clinton.....26,798 Hardin.....5,440 Marion.....16,816 Shelby.....818
 Appanoose.....11,863 Clinton.....18,998 Harrison.....5,523 Marshall.....6,015 Sioux.....10
 Audubon.....464 Crawford.....388 Henry.....16,706 Mills.....4,496 Story.....4,622
 Benton.....6,502 Dallas.....4,244 Howard.....2,163 Mitchell.....3,409 Tama.....6,326
 Bl'k Hawk.....6,244 Davis.....12,764 Humboldt.....323 Monona.....882 Taylor.....3,469
 Boone.....4,231 Decatur.....6,677 Ida.....43 Monroe.....6,611 Union.....2,812
 Bremer.....4,915 Delaware.....11,028 Iowa.....8,029 Montgomery.....1,266 Van Buren.....17,083
 Buchanan.....7,906 D's Moines.....9,812 Jackson.....18,494 Muscatine.....16,444 Wapella.....14,418
 Buena Vista.....57 Dickinson.....180 Jasper.....9,887 Osceola.....(notor.) Warren.....16,268
 Bu'ne'be (notor.) Dubuque.....21,165 Jefferson.....18,037 O'Brien.....8 Washburn.....4,223
 Butler.....2,724 Emmett.....106 Johnson.....17,573 Page.....4,419 Wayne.....4,411
 Calhoun.....147 Fayette.....12,073 Jones.....13,306 Palo Alto.....138 Webster.....2,894
 Carroll.....281 Floyd.....3,746 Keokuk.....13,204 Plymouth.....148 Winnebago.....180
 Cass.....1,613 Franklin.....1,309 Kosuth.....416 Pocahontas.....108 Winnesh'g.....13,942
 Cedar.....12,949 Fremont.....5,074 Lee.....29,232 Polk.....11,626 Woodbury.....1,119
 Cerro Gordo.....940 Green.....1,374 Linn.....18,860 Pottaw'omi.....4,963 Worth.....128
 Cherokee.....940 Grundy.....10,810 Pottaw'omi.....4,963 Pottaw'omi.....4,963 Worth.....128
 Chickasaw.....4,338 Guthrie.....2,066 Lucas.....8,796 Ringgold.....2,923 Taylor.....674,949

MINNESOTA.—Area, 95,274 square miles.

Aitken.....5,631 Dakota.....9,093 Kandiyohi.....78 Nicollet.....3,773 Sherburne.....724
 Anoka.....2,106 Dodge.....3,797 Lake.....249 Noble.....36 Sibley.....3,400
 Becker.....386 Douglas.....196 Le Sueur.....3,318 Olmstead.....6,527 Stearns.....4,696
 Benton.....627 Faribault.....1,335 Mankabla.....Otter Tail.....240 Steele.....3,203
 Blue Earth.....4,802 Fillmore.....13,543 Manonina.....136 Pembina.....1,612 St. Louis.....408
 Breckenridge.....79 Freeborn.....3,367 Martin.....181 Pierce.....10 Todd.....420
 Brown.....2,389 Goodhue.....8,897 McLeod.....1,266 Pine.....1,741 Toombs.....40
 Buchanan.....26 Hennepin.....12,849 Meeker.....928 Pipestone.....22 Wabasha.....7,336
 Carver.....51 Houston.....6,645 Millie Lac.....73 Polk.....349 Wahata.....3,891
 Carlson.....5,165 Isanti.....284 Monongalia.....260 Ramsey.....13,150 Wadena.....3,891
 Cass.....160 Itasca.....51 Morrison.....618 Renville.....245 Washburn.....6,120
 Chicago.....91 Jackson.....181 Mower.....3,217 Rice.....7,643 Winona.....5,708
 Cottonwood.....12 Kanabae.....36 Murray.....29 Scott.....4,694 Wright.....2,729
 Crow Wing.....289 Total.....173,923

MISSOURI.—Area, 67,380 square miles.

Adair.....8,531 Clay.....13,025 Howell.....3,189 Monroe.....14,786 St. Charles.....8,523
 Andrew.....11,856 Clinton.....7,648 Iron.....5,842 Montgomery.....9,719 St. Clair.....6,599
 Atchison.....4,649 Cole.....9,695 Jackson.....22,914 Morgan.....6,292 St. Francis.....7,940
 Audrain.....8,674 Cooper.....17,356 Jasper.....6,883 N. Madrid.....6,658 St. Genev'ge.....6,720
 Barry.....7,704 Crawford.....6,827 Jefferson.....10,344 Newton.....9,326 St. Louis.....19,826
 Barton.....1,817 Dade.....7,073 Johnson.....14,644 Nodaway.....5,253 Saline.....14,700
 Bates.....7,216 Dallas.....5,802 Knox.....8,726 Oregon.....3,009 Schuyler.....6,697
 Benton.....9,072 Davies.....9,806 La Ciede.....6,180 Osage.....7,679 Scotland.....6,473
 Bollinger.....7,988 De Kalb.....8,224 La Fayette.....20,081 Osark.....2,447 Scott.....5,547
 Boone.....19,715 Dent.....13,195 Madison.....6,647 Pemissoul.....2,968 Shawano.....3,294
 Buchanan.....23,861 Dodge.....2,066 Lewis.....12,268 Perry.....9,126 Shelby.....7,301
 Butler.....2,691 Douglas.....2,415 Lincoln.....14,214 Pettis.....6,492 Stoddard.....7,777
 Caldwell.....6,624 Dunklin.....6,026 Linn.....9,113 Phelps.....5,914 Stone.....2,401
 Callaway.....17,445 Franklin.....18,083 Livingston.....7,417 Pike.....18,420 Sullivan.....6,198
 Camden.....4,975 Gasconade.....8,727 McDonald.....4,049 Platte.....18,541 Taney.....3,175
 C. Gird'nd.....16,547 Gentry.....11,989 Macon.....14,407 Polk.....9,906 Texas.....6,580
 Carroll.....9,715 Harrison.....13,195 Madison.....6,647 Putnam.....3,268 Warren.....6,583
 Carter.....1,324 Grundy.....7,686 Maries.....4,361 Putnam.....3,268 Warren.....6,583
 Cass.....9,768 Harrison.....10,627 Marion.....16,828 Ralls.....6,582 Washington.....6,726
 Cedar.....6,829 Henry.....9,864 Mercer.....9,300 Randolph.....11,466 Wayne.....6,826
 Charleston.....12,689 Hickory.....4,706 Miller.....6,812 Ray.....14,081 Webster.....7,699
 Christian.....5,491 Holt.....6,850 Mississippi.....4,889 Reynolds.....2,173 Wright.....4,588
 Clark.....11,894 Howard.....16,949 Monticou.....10,064 Ripley.....3,747 Total.....1,123,317

CALIFORNIA.—Area, 188,981 square miles.

Alameda... 5,972	Humboldt... 2,894	Nevada... 10,447	San Fran'co... 6,805	Stanislaus... 2,948
Alameda... 10,988	Klamath... 1,888	Placer... 12,170	San Joaquin... 6,041	Sutter... 2,888
Battle Co... 12,168	Los Angeles... 3,386	Plumas... 4,368	San Joaquin... 6,041	Tehama... 4,044
Calaveras... 18,368	Marin... 2,324	Sacramento... 24,148	San Mateo... 3,814	Trinity... 1,192
Colusa... 2,374	Mariposa... 6,343	St. Barbara... 2,543	Shasta... 4,388	Tulare... 4,688
C'ra Costa... 5,388	Mendocino... 3,807	St. Clara... 11,912	Sierra... 11,388	Tuolumne... 16,228
Del Norte... 1,882	Mered... 1,141	Santa Cruz... 4,948	Siskiyou... 7,038	Yolo... 4,718
El Dorado... 24,648	Monterey... 4,738	S. Bernard... 6,654	Solano... 7,170	Yuba... 15,071
Fresno... 4,408	Napa... 5,618	San Diego... 4,228	Sonoma... 11,887	Total... 280,016

OREGON.—Area, 102,808 square miles.

Benton... 3,074	Coe... 384	Josephine... 1,622	Multnomah... 4,156	Wasco... 1,688
Clackamas... 3,488	Curry... 368	Lane... 4,788	Polk... 3,828	Washington... 2,861
Clatsop... 488	Douglas... 3,284	Linn... 6,778	Tillamook... 86	Yam Hill... 2,848
Columbia... 582	Jackson... 2,736	Marion... 2,088	Umpqua... 1,368	Total... 22,664

KANSAS.—Area, 78,418 square miles.

Allen... 2,002	Clay... 168	Godfrey... 19	Lykes... 4,980	Pottawattie... 888
Anderson... 2,400	Coffey... 2,842	Greenwood... 750	McGe... 1,501	Reley... 1,328
Atchison... 7,728	Davis... 1,168	Hunter... 158	Marion... 74	Shawnee... 5,813
Bourbon... 6,102	Dickinson... 878	Jackson... 1,988	Marshall... 2,380	Wabanssee... 1,904
Breckinridge... 5,882	Doniphan... 8,084	Jefferson... 4,458	Morris... 770	Washington... 288
Brown... 2,608	Dora... 88	Johnson... 4,368	Nemaha... 2,457	Wilson... 302
Butler... 487	Douglas... 8,687	Leavenworth... 12,008	Ogawa... 1,112	Woodson... 1,488
Chase... 508	Franklin... 4,088	Linn... 6,888	Otoe... 288	Wyandot... 2,008
				Total... 107,118

The population of the Territories is rapidly increasing, and no reliable Census Report can be here presented.

Population of the Principal Cities and Towns.**Census of 1860.**

Augusta, Me... 7,608	Baton Rouge, La... 5,428	Danville, Pa... 6,388	Haverst'w, N. Y... 5,461
Abington, Me... 5,527	Calden, Me... 5,621	Dayton, O... 20,482	Hoboken, N. J... 9,682
Adams, Me... 6,924	Concord, N. H... 10,886	Detroit, Mich... 45,618	Hudson, N. J... 7,288
Adelphi, Me... 6,068	Cambridge, Ms... 28,088	Indianapolis, Ind... 18,012	Hudson's, N. J... 4,488
Albany, N. Y... 2,308	Charlottesville, Va... 28,088	Davenport, Ia... 11,288	Harrisburg, Pa... 15,488
Albany, N. Y... 10,988	Chelsea, Ms... 13,388	Denver, Col... 4,748	Hempstead, Pa... 4,488
Arcadia, N. Y... 5,318	Chicopee, Ms... 7,261	Enfield, Ct... 4,987	Houston, Tex... 5,000
Amherst, N. Y... 5,088	Cumby's, N. Y... 1,838	Elmira, N. Y... 5,882	Hamilton, O... 7,222
Allegheny, Pa... 28,703	Cranston, R. I... 7,500	Ellensburg, N. Y... 5,614	Hannibal, Mo... 6,505
Allentown, Pa... 8,028	Cortland, N. Y... 10,078	E. Chester, N. Y... 5,682	Ithaca, N. Y... 6,843
Alexandria, Va... 11,206	Cochran, N. Y... 5,888	Elizabeth, N. J... 11,587	Indianapolis, Ind... 18,612
Augusta, Ga... 12,488	Canandaigua, N. Y... 7,078	Erie, Pa... 8,418	Iowa City, Ia... 5,214
Atlanta, Ga... 9,584	Castleton, N. Y... 6,778	Easton, Pa... 8,844	Johnstown, N. Y... 5,811
Albany, N. Y... 5,818	Canton, N. Y... 5,378	Evansville, Ind... 11,488	Jamaica, N. Y... 5,618
Adrian, Mich... 6,218	Gatekill, N. Y... 6,278	Fall River, Ma... 14,027	Jersey City, N. J... 28,328
Alton, Ill... 6,338	Cornwall, N. Y... 6,008	Fitchburg, Ms... 7,808	Jacksonville, Fla... 2,138
Aurora, Ill... 6,011	Champlain, N. Y... 5,887	Fishburg, N. Y... 10,188	Jefferson, La... 5,107
Atchison, Kan... 2,618	Camden, N. J... 14,358	Fishkill, N. Y... 9,548	Janeville, Wis... 7,788
Bangor, Me... 16,407	Carlisle, Pa... 5,064	Frederick, Md... 8,143	Jefferson City, Mo... 5,688
Biddeford, Me... 9,348	Carbondale, Pa... 6,878	Fredburg, Md... 6,288	Key West, Fla... 5,888
Bath, Me... 8,078	Chambersburg, Pa... 5,257	Frederick, Va... 5,022	Kingston, N. Y... 10,464
Belmont, Me... 5,520	Columbia, Pa... 5,007	Ft Wayne, Ind... 10,388	Kalamazoo, Mich... 6,078
Burlington, Vt... 7,718	Cumby's, Md... 8,478	Ft du Lac, Wis... 5,480	Keokuk, Ia... 6,137
Boston, Ms... 177,481	Charleston, S. C... 51,210	Ft Smith, Ark... 1,328	Lawrence, Kan... 1,648
Beverly, Ms... 6,154	Columbia, S. C... 8,088	Gloucester, Ms... 10,308	Leavenworth, Kan... 7,488
Blackstone, Ms... 5,458	Columbus, Ga... 9,621	Greenwich, Ct... 6,522	Lexington, Mo... 4,118
Brockline, Ms... 5,284	Columbus, Miss... 5,368	Greenburg, N. Y... 1,328	Lewell, Me... 5,887
Barnstable, Ms... 5,128	Camden, Ark... 1,343	Galen, N. Y... 5,340	Lynn, Ms... 18,088
Bristol, R. I... 5,271	Covington, Ky... 16,471	Georgetown, D. C... 8,782	Lawrence, Ms... 17,688
Bridgeport, Ct... 13,288	Cincinnati, O... 161,044	Galveston, Tex... 8,177	Lockport, N. Y... 12,828
Brighy, N. Y... 266,564	Cleveland, O... 36,034	G'd Rapids, Mich... 8,068	Lenox, N. Y... 6,074
Buffalo, N. Y... 81,131	Columbus, O... 18,588	Galesburg, Ill... 5,828	Little Falls, N. Y... 5,388
B'kham, N. Y... 9,922	Chillicothe, O... 7,887	Galesburg, Ill... 5,828	Lisbon, N. Y... 5,000
Bingham, N. Y... 5,328	Chicago, Ill... 169,388	Golden City, Col... 1,314	Lansing, Mich... 4,688
Barre, N. Y... 7,227	Carson City, Nev... 708	G't Salt La. City... 1,314	Lynn, N. Y... 5,077
Bath, N. Y... 5,127	Dover, N. H... 8,462	Haverhill, Ms... 9,908	Lancaster, Pa... 17,008
Bergen, N. J... 7,428	Dorchester, Ms... 3,788	Holyoke, Ms... 4,987	Lynchburg, Va... 6,888
Burlington, N. J... 5,174	Dedham, Ms... 6,330	Hartford, Ct... 29,152	Little Rock, Ark... 3,788
Birmingham, Pa... 6,948	Daughters, N. Y... 5,110	Hempstead, N. Y... 12,378	Levell, Ky... 68,748
Baltimore, Md... 212,418	Danbury, Ct... 7,224	Huntington, N. Y... 8,928	Lexington, Ky... 8,321
Bloomington, Ill... 7,078	Derby, Ct... 8,444	Hudson, N. Y... 7,352	Lafayette, Ind... 9,488
Barrington, Ia... 6,706	Deer Park, N. Y... 8,186	Hector, N. Y... 5,822	La Porte, Ind... 4,928

M'chester, N. H. 20,107	N. Brunswick, N. J. 11,265	Peoria, Ill. 14,426	St. Louis, Mo. 161,780
Millford, N. H. 9,132	Norfolk, Va. 14,809	Quincy, Ma. 6,778	St. Joseph, Mo. 8,932
Marblehead, Ma. 7,646	Newbern, N. C. 8,484	Queensbg, N. Y. 17,146	St. Paul, Minn. 10,461
Marlboro', Ma. 5,911	Natchez, Miss. 13,568	Quincy, Ill. 17,116	St. Anthony, Minn. 3,266
Malden, Ma. 5,865	N. Orleans, La. 168,472	Rockland, Ma. 7,316	S. Francisco, Cal. 56,806
Meriden, Ct. 7,426	Nashville, Ten. 16,967	Rutland, Vt. 7,577	Sacramento, do. 13,786
Morrisania, N. Y. 9,245	Newport, Ky. 10,046	Roxbury, Ma. 26,137	Salem, Or. 6,000
Malone, N. Y. 6,565	N. Albany, Ind. 13,647	Randolph, Ma. 5,780	Santa Fe, N. Mex. 4,635
Middleton, N. Y. 6,243	Nebraska City. 1,912	Recheater, N. Y. 48,243	Taunton, Ma. 15,376
Manlius, N. Y. 6,028	Newsgo, N. Y. 16,817	Rome, N. Y. 6,246	Troy, N. Y. 39,226
Milton, N. Y. 6,255	Oyster Bay, N. Y. 9,166	Rahway, N. J. 7,130	Trenton, N. J. 17,221
Macou, Ga. 8,347	Ogdensburg, N. Y. 7,410	Reading, Pa. 23,162	Tuscaloosa, Ala. 5,969
Mobile, Ala. 23,269	Or'getown, N. Y. 7,060	Richmond, Va. 37,910	Toledo, O. 13,708
Montg'ry, Ala. 9,889	Onondaga, N. Y. 5,112	Richmond, Ind. 6,603	Terre Haute, Ind. 6,604
Madison, Ind. 8,123	Orange, N. J. 8,877	Rockford, Ill. 7,363	Utica, N. Y. 22,593
Mill'kee, Wis. 45,284	Oshkosh, Wis. 6,086	Rock Island, Ill. 5,130	Volney, N. Y. 8,045
Madison, Wis. 6,011	Oregon City, Or. —	Racine, Wis. 7,822	Verona, N. J. 6,461
Muscatine, Ia. 4,324	Ogden, Utah. 4,464	Saco, Me. 6,223	Vicksburg, Miss. 4,691
Minneapolis, Minn. 2,564	Omaha, Neb. 1,898	Salem, Ma. 22,262	Virg. City, Nev. 3,345
Mesilla, N. Mex. 2,406	Pembina, Dak. 3,566	Springfield, Ma. 15,199	Westbrook, Me. 6,113
Memphis, Tenn. 22,626	Pt. To'ns'd, W. Ter. 264	Somerville, Ma. 8,025	Worcester, Ma. 24,990
Nashua, N. H. 10,065	Portland, Or. 1,371	S. Danvers, Ma. 6,549	Weymouth, Ma. 7,742
New Bedford, Ma. 22,300	Portland, Me. 26,342	Smithfield, R. I. 13,283	Woburn, Ma. 6,776
Newbury's, Ma. 13,401	Portsmouth, N. H. 9,335	Stonington, Ct. 7,740	Waltham, Ma. 6,387
Newton, Ma. 6,382	Pittsfield, Ma. 8,045	Stamford, Ct. 7,185	W. Roxbury, Ma. 6,210
North'pton, Ma. 6,788	Plymouth, Ma. 6,272	Syracuse, N. Y. 28,199	Westfield, Ma. 6,694
N. Bridge'w'r, Ma. 6,584	Providence, R. I. 50,666	Sche'ctady, N. Y. 9,579	Warwick, R. I. 5,315
Natick, Ma. 6,515	Pokepsie, N. Y. 14,726	Saugerties, N. Y. 9,536	Waterbury, Ct. 29,694
N. Providence, R. I. 11,818	Parish'le, N. Y. 9,033	Seaca, N. Y. 8,448	West Troy, N. Y. 8,890
Newport, R. I. 10,506	Potadam, N. Y. 6,737	Saratoga, N. Y. 8,521	Waters'g'n, N. Y. 7,573
New Haven, Ct. 29,268	Plataburg, N. Y. 6,460	Southold, N. Y. 8,823	Walkill, N. Y. 6,663
Norwich, Ct. 14,027	Phelps, N. Y. 6,566	Sullivan, N. Y. 5,225	William'gton, N. C. 9,563
N. London, Ct. 10,116	Pateron, N. J. 19,588	Scranton, Pa. 8,222	Wash'g'n, D. C. 61,112
Norwalk, Ct. 7,582	Philad'phia, Pa. 565,531	Staunton, Va. 14,124	Wheel'g, W. Va. 14,163
New Britain, Ct. 6,212	Pittsburg, Pa. 49,220	Savannah, Ga. 22,292	Waynes'g'o, Va. 12,222
N. York, N. Y. 813,668	Pottsville, Pa. 9,444	S. Antonio, Tex. 8,274	Wilmington, N. C. 9,563
Newburg, N. Y. 15,198	Petersburg, Va. 18,266	Sandusky, O. 8,408	W'ri'town, Wis. 5,262
Newtown, N. Y. 13,725	Portsmouth, Va. 9,487	Springfield, O. 7,202	Yonkers, N. Y. 11,668
Niagara, N. Y. 6,626	Pensacola, Fla. 4,666	Scrubenville, O. 6,184	York, Pa. 8,865
N. Hemp'd, N. Y. 6,419	Prattville, Ala. 3,200	Springfield, Ill. 6,499	Zanesville, O. 8,229
Newark, N. J. 71,941	Portsmouth, O. 6,268		

WHAT TO DO WITH IT.

Those of our friends who receive more than one copy of this little work, will readily understand that our object is to have them judiciously distributed. If any person who has an extra copy, will send it to some friend or neighbor, he may enjoy the satisfaction of doing a double act of kindness: the receiver will be obliged, and so will your obedient servants,

MUNN & CO.

The postage on this book is 2 cents.

SEND AN ORDER.

We are sometimes called upon by persons, stating that they have been desired by our clients to come to our office and examine their models, drawings, patent-papers, etc. We are always compelled to decline such requests. The business committed to our care is of a peculiar nature, strictly confidential, and we cannot give information upon merely verbal messages. A written order should be sent.

No part of the money paid for an application for a Patent, is returnable if the application is rejected.

NEW-YORK AND WASHINGTON.

THERE are perhaps no two cities in this country to which inventors and patentees are more frequently called, in the course of business, than New-York and Washington. For the convenience of our inventive friends, we subjoin a list of the principal objects and places of interest, which they should endeavor to see whenever they visit either place. Inventors will always be welcome at our offices in New-York or Washington; and we hope they will "walk in" without knocking. We shall be happy to give them any information. (See page 13.)

WASHINGTON.—PLACES OF INTEREST.

Arsenal.
Alexandria, Va.
Aqueduct.
Battle-Fields of Bull Run.
Congressional Cemetery.
Capitol and Grounds.
Georgetown Heights.
General Post-Office.
Government Insane Asylum.
Government Green-Houses.
Jackson's Statue.
Long Bridge.
Mount Vernon.

National Observatory
Navy Yard.
Navy Department.
Potomac Falls.
Presidential Mansion and Gardens.
Patent Office.
Scientific American Office.
Smithsonian Institute.
Soldier's Home.
Treasury Department.
War Department.
Washington Monument.
Washington's Statues.

NEW-YORK.—PLACES OF INTEREST.

Academy of Music.
Academy of Design.
Asylum for the Blind.
Astor Library.
Atlantic Docks.
Battery.
Bible House.
Blackwell's Island.
Central Park.
City Hall.
Cooper Institute.
Croton Reservoir.
Dry Dock.
Fort Hamilton.
Fort Lafayette.
Governor's Island.

Greenwood Cemetery.
High Bridge.
Hoboken.
Navy Yard.
Post-Office.
Scientific American Office.
Sub-Treasury.
South Street.
Statens Island.
Tombs.
Trinity Church.
United States Custom House.
Washington Monument.
Worth Monument.
Wall Street.
Washington Market.

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Munn No. 1

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THE

UNITED STATES

PATENT LAW.

INSTRUCTIONS

How to Obtain Letters Patent

FOR NEW INVENTIONS,

BY

JOHN A. MUNN, ATTORNEY AT LAW,
THE PATENT LAW.

MUNN & CO., SOLE AGENTS OF PATENTS,

100 N. 2ND ST., NEW-YORK.

NEW-YORK: PUBLISHED BY MUNN & CO., 100 N. 2ND ST., AND BY THE

AMERICAN PATENT OFFICE, 100 N. 2ND ST., NEW-YORK.

THE
United States Patent Law.
~~~~~  
INSTRUCTIONS  
**HOW TO OBTAIN LETTERS PATENT**  
**FOR NEW INVENTIONS,**  
TOGETHER WITH A  
Variety of Useful Information concerning  
the Patent Law.

By **MUNN & CO., SOLICITORS OF PATENTS,**

**No. 37 Park Row, New-York.**

—•••—

THE Patent Law Amendment Act, passed March 2, 1861, and now in force, introduced several important changes in our Patent System. The general practice of the Patent Office, however, in regard to the examination and issue of Letters Patent for new inventions, remains nearly the same as before the amendment.

There are a great variety of questions constantly arising under our Patent System that involve matters of great importance, not only to inventors and patentees, but to all who are in any way interested in patented inventions. We have endeavored, in the preparation of this pamphlet, to embrace all such points as are most important to those interests. The information is based upon our own experience of seventeen years as Solicitors of Patents, and upon decisions made by United States Courts in patent cases.

Wayne.....12,383 Whitesid's 18,740 Will'moon 12,205 Winnab'go 24,492 Woodford 12,213  
 White.....12,408 Will.....29,321 Total.....1,711,753

### WISCONSIN.—Area, 53,924 square miles.

Adams.....6,497 Dane.....43,992 Jefferson 26,771 Oconto.....3,600 Shawanaw 8,529  
 Ashland.....513 Dodge.....42,619 Juneau.....8,704 Outagamie 9,586 Sherborn 26,548  
 Bad Ax.....11,012 Door.....2,948 Kenosha 13,516 Ozaukee.....16,974 St. Croix.....5,393  
 Brown.....11,797 Douglas.....828 Kewaunee 8,530 Pepin.....2,397 Tremplean 2,446  
 Buffalo.....3,885 Dunn.....2,723 La Crosse 12,194 Pierce.....4,673 Walworth 26,408  
 Burnett.....12 Kan Claib 3,164 La Fayette 16,141 Polk.....1,412 Washburn 25,535  
 Calumet.....7,696 P'd du Lac 155 La Pointe.....673 Portage.....7,504 Waukesha 26,545  
 Chippewa 1,895 Grant.....31,207 Manitowoc 22,335 Racine.....21,340 Waupaca 8,585  
 Clark.....790 Green.....19,881 Marathon 2,934 Richland.....2,737 Waushara 8,772  
 Columbia 24,445 Gr'n Lake 12,631 Marquette 8,236 Rock.....36,692 Winneb'go 25,168  
 Crawford.....6,071 Iowa.....18,998 Milwaukee 82,464 Sauk.....18,894 Wood.....3,429  
 Delina.....13 Jackson.....4,171 Monroe.....8,398 Total.....774,973

### IOWA.—Area, 50,914 square miles.

Adair.....984 Clarke.....6,427 Hamilton 1,609 Madison.....7,338 Sac.....948  
 Adams.....1,533 Clay.....62 Hancock.....179 Mahaska 14,818 Scott.....26,599  
 Adair.....1,533 Clayton 28,738 Hardin.....4,440 Marion.....18,816 Shelby.....818  
 Appanoose 11,823 Clinton 18,938 Harrison 8,623 Marshall 8,615 Sioux.....10  
 Audubon.....454 Crawford.....263 Henry.....18,700 Mills.....4,490 Story.....4,652  
 Benton.....5,502 Dallas.....6,244 Howard.....2,163 Mitchell 5,400 Tama.....4,286  
 Bl'k Hawk 6,244 Davis.....12,764 Humboldt 323 Menona.....892 Taylor.....3,460  
 Boone.....4,291 Decatur.....8,677 Ida.....43 Monroe.....8,611 Union.....2,612  
 Bremer.....4,918 Delaware 11,028 Iowa.....8,629 Montgo'ry 1,299 Van Buren 1,983  
 Buchanan 7,908 D's Moines 18,613 Jackson 18,494 Muscatine 16,444 Wapello 14,818  
 Buena Vista 67 Dickinson 190 Jasper.....6,887 Osceola (not c.) Warren.....16,360  
 Bunc'be (not c.) Dubuque 31,168 Jefferson 15,037 O'Brien.....8 Washburn 14,533  
 Butler.....3,794 Emmett.....106 Johnson.....17,573 Page.....4,419 Wayne.....8,411  
 Calhoun.....147 Fayette 12,073 Jones.....13,306 Palo Alto.....193 Webster.....3,404  
 Carroll.....261 Floyd.....3,765 Keokuk.....12,264 Plymouth 148 Winesburg 189  
 Cass.....1,612 Franklin 1,309 Kosauath.....418 Pocahontas 108 Winneb'go 15,045  
 Cedar.....15,949 Fremont 6,074 Lee.....26,223 Polk.....11,622 Woodbury 1,118  
 Cerro Gordo 940 Green.....1,574 Lincoln.....16,850 Pottawatie 4,304 Woodworth 1,118  
 Cherokee.....67 Grundy.....793 Louisa.....10,370 Poweshiek 8,570 Wright.....653  
 Chickasaw 4,338 Guthrie.....3,068 Lucas.....6,786 Ringgold.....2,923 Total.....674,498

### MINNESOTA.—Area, 95,274 square miles.

Aiken.....3 Dakota 9,093 Kandiyohi 78 Nicollet.....3,778 Sherburne 734  
 Anoka.....2,106 Dodge.....3,797 Lake.....246 Noble.....36 Shibley.....3,809  
 Becker.....386 Douglas.....106 Le Sueur 8,318 Olmstead.....8,227 Stearns.....4,605  
 Benton.....627 Faribault 1,335 Mankasha.....196 Otter Tail.....240 Steele.....2,923  
 Blue Earth 4,892 Fillmore 13,543 Masonia.....196 Pembina.....1,613 St. Louis.....408  
 Breckridge 70 Freeborn 3,387 Martin.....151 Pierce.....10 Todd.....426  
 Brown.....2,399 Goodhue 8,897 McLeod 1,266 Pine.....1,741 Toombs.....40  
 Buchanan 26 Hennepin 12,849 Meeker.....928 Pipestone 23 Wahakaw 7,238  
 Carleton.....61 Houston 6,645 Millie Lac 73 Polk.....240 Wahata.....2  
 Carver.....4,106 Isanti.....284 Monongalia 320 Ramsey.....12,150 Waseca.....3,091  
 Cass.....180 Itasca.....61 Morrison.....618 Renville.....248 Washburn 8,128  
 Chisago.....91 Jackson.....181 Mower.....3,217 Rice.....7,443 Winona.....5,236  
 Cottonwood 12 Kanabaw.....90 Murray.....29 Scott.....4,694 Wright.....5,739  
 Crow Wing 260 Total.....172,923

### MISSOURI.—Area, 67,380 square miles.

Adair.....8,581 Clay.....13,022 Howell.....3,190 Monroe.....16,786 St. Charles 8,823  
 Andrew.....11,890 Clinton.....7,648 Iron.....5,842 Montgo'ry 9,718 St. Clair.....8,509  
 Atchison 8,494 Cole.....9,696 Jackson 23,914 Morgan.....8,202 St. Francis 7,246  
 Audrain.....6,049 Cooper.....17,368 Jasper.....6,868 N. Madrid 6,665 St. Genev'ge 8,229  
 Barry.....7,704 Crawford 5,827 Jefferson 10,344 Newton.....9,226 St. Louis 100,435  
 Barton.....1,817 Dade.....7,073 Johnson 14,644 Nodaway.....5,363 Salline.....14,706  
 Bates.....7,216 Dallas.....8,892 Knox.....8,726 Oregon.....3,606 Schoyer.....6,697  
 Benton.....9,072 Daviess 8,605 La Clede.....5,190 Oage.....7,879 Scottland 8,772  
 Bollinger 7,347 De Kalb.....11,294 La Fayette 16,091 Ozark.....8,447 Scott.....5,567  
 Boone.....16,467 Dent.....6,554 Lawrence 8,847 Pemiscot.....2,981 Shannon 2,384  
 Buchanan 28,801 Dodge.....296 Lewis.....12,286 Perry.....6,126 Shelby.....7,301  
 Butler.....2,891 Douglas 2,415 Lincoln.....14,214 Pettie.....6,492 Stoddard 1,977  
 Caldwell.....6,034 Dunklin.....6,026 Linn.....9,113 Phelps.....6,914 Stone.....2,491  
 Caldwell 17,445 Franklin 18,068 Livingston 7,417 Pike.....18,420 Sullivan.....5,199  
 Camden.....4,973 Gasconade 6,737 McDonnell 4,040 Platte.....15,941 Taney.....5,876  
 Carroll 7,347 Geary.....11,294 La Fayette 16,091 Polk.....8,906 Taylor.....5,876  
 Carroll.....3,775 Greene.....13,186 Madison 5,564 Pulaski.....3,548 Vernon.....4,779  
 Carter.....1,384 Grundy 7,896 Maries.....4,901 Putnam.....6,996 Warren.....8,823  
 Cass.....9,798 Harrison 10,627 Marion.....18,928 Ralls.....6,592 Washburn 8,726  
 Cedar.....6,298 Henry.....9,804 Mercer.....9,306 Randolph 11,466 Wayne.....8,928  
 Charleston 15,599 Hickory.....4,766 Miller.....6,812 Ray.....14,091 Webster 7,699  
 Christian 6,481 Holt.....8,650 Mississippi 4,869 Reynolds 8,173 Wright.....4,699  
 Clark.....11,894 Howard.....12,949 Moniteau 10,094 Ripley.....2,747 Total.....1,125,517

**CALIFORNIA.—Area, 166,981 square miles.**

|                        |                      |                        |                        |                       |
|------------------------|----------------------|------------------------|------------------------|-----------------------|
| Alameda..... 5,577     | Humboldt..... 2,094  | Nevada..... 16,447     | San Fran..... 64,000   | Stanislaus..... 2,346 |
| Amador..... 10,582     | Klamath..... 1,808   | Piacer..... 12,370     | San Joaquin..... 6,494 | Sutter..... 2,300     |
| Batte..... 12,197      | L's Angel..... 1,336 | Piomas..... 4,363      | S'a L's Ob'..... 7,728 | Tehama..... 4,044     |
| Calaveras..... 15,302  | Maria..... 2,334     | Sacram'to..... 34,144  | San Mateo..... 2,314   | Trinity..... 5,126    |
| Cofuel..... 2,374      | Mariposa..... 5,343  | St. Barbara..... 3,548 | Shasta..... 4,360      | Tulare..... 4,628     |
| C'tra Costa..... 5,367 | Mendocino..... 5,367 | St. Clara..... 11,813  | Sierra..... 11,809     | Tuolumne..... 16,229  |
| Del Norte..... 1,892   | Mered..... 1,141     | Santa Cruz..... 4,944  | Siskiyou..... 7,628    | Yolo..... 4,716       |
| El Dorado..... 20,462  | Monterey..... 4,730  | S. Bernard..... 5,554  | Solano..... 7,170      | Yuba..... 12,671      |
| Freese..... 4,606      | Napa..... 5,616      | San Diego..... 4,326   | Sonoma..... 11,867     | Total..... 230,916    |

**OREGON.—Area, 102,608 square miles.**

|                      |                    |                      |                      |                       |
|----------------------|--------------------|----------------------|----------------------|-----------------------|
| Benton..... 3,074    | Coe..... 204       | Josephine..... 1,673 | Multnomah..... 4,150 | Wasco..... 1,000      |
| Clackamas..... 3,466 | Curry..... 368     | Lane..... 4,780      | Polk..... 3,326      | Washington..... 2,081 |
| Clatsop..... 400     | Douglas..... 3,264 | Linn..... 6,772      | Tillamook..... 95    | Yam Hill..... 3,245   |
| Columbia..... 532    | Jackson..... 3,736 | Marion..... 7,088    | Umpqua..... 1,360    | Total..... 52,464     |

**KANSAS.—Area, 78,418 square miles.**

|                         |                     |                       |                    |                      |
|-------------------------|---------------------|-----------------------|--------------------|----------------------|
| Allen..... 3,092        | Clay..... 163       | Godfrey..... 19       | Lykne..... 4,980   | Pottawatt's..... 508 |
| Anderson..... 2,400     | Coffey..... 2,642   | Greenwood..... 759    | McGee..... 1,501   | Ellis..... 1,226     |
| Atchison..... 7,738     | Davis..... 1,153    | Hunter..... 158       | Marion..... 74     | Shawnee..... 2,513   |
| Bourbon..... 5,192      | Dickson..... 1,078  | Johnson..... 1,938    | McPhail..... 2,309 | Wabance..... 1,222   |
| Breckinridge..... 6,822 | Douglas..... 8,094  | Jefferson..... 4,458  | Morris..... 770    | Washington..... 808  |
| Brews..... 3,409        | Dorn..... 68        | Johnson..... 4,368    | Nemaha..... 2,437  | Wilson..... 27       |
| Butler..... 437         | Douglas..... 6,637  | Leaven'th..... 12,606 | Osage..... 1,113   | Wooden..... 1,486    |
| Chase..... 806          | Franklin..... 3,021 | Linn..... 6,236       | Otoe..... 326      | Wyandot..... 2,000   |
|                         |                     |                       |                    | Total..... 107,110   |

The population of the Territories is rapidly increasing, and no reliable Census Report can be here presented.

**Population of the Principal Cities and Towns.****Census of 1860.**

|                             |                             |                               |                               |
|-----------------------------|-----------------------------|-------------------------------|-------------------------------|
| Augusta, Me..... 7,009      | Baton Rouge, La..... 5,428  | Danville, Pa..... 6,285       | Haverstr'w, N.Y..... 5,401    |
| Abington, Ms..... 8,527     | Cahala, Me..... 5,621       | Dayton, O..... 20,482         | Hoboken, N.J..... 9,023       |
| Adams, Ms..... 6,924        | Concord, N.H..... 10,996    | Detroit, Mich..... 6,519      | Hudson, N.J..... 7,359        |
| Attleboro', Ms..... 6,066   | Cambridge, Ms..... 20,060   | Dubuque, Ia..... 11,012       | Hackensack, N.J..... 5,480    |
| Albany, N.Y..... 62,368     | Charlestown, Ms..... 25,063 | Davenport, Ia..... 11,268     | Harrisburg, Pa..... 13,400    |
| Ansbura, N.Y..... 10,986    | Chelsea, Ms..... 12,396     | Denver, Col..... 7,749        | Hempstead, Pa..... 5,450      |
| Arcadia, N.Y..... 5,315     | Chicopee, Ms..... 7,361     | Essex, Ct..... 4,967          | Honolulu, Tex..... 5,000      |
| Amherst, N.Y..... 6,038     | Cumby's, R..... 1,638       | Elmira, N.Y..... 5,682        | Hamilton, O..... 7,222        |
| Allegany, Pa..... 28,708    | Cranston, R.I..... 7,560    | Ellisburg, N.Y..... 5,614     | Hannibal, Mo..... 6,565       |
| Allentown, Pa..... 8,926    | Cortland, N.Y..... 10,078   | E. Chester, N.Y..... 5,582    | Ithaca, N.Y..... 6,843        |
| Alexandria, Va..... 11,206  | Cohoes, N.Y..... 8,900      | Elizabeth, N.J..... 11,567    | Indianapolis, Ind..... 16,812 |
| Augusta, Ga..... 12,493     | Canandaigua, N.Y..... 7,078 | Erie, Pa..... 5,410           | Iowa City, Ia..... 5,214      |
| Atlanta, Ga..... 5,554      | Castleton, N.Y..... 6,778   | Easton, Pa..... 5,944         | Johnstown, N.Y..... 8,511     |
| Algiers, La..... 5,816      | Canton, N.Y..... 6,379      | Evansville, Ind..... 1,486    | Jamaica, N.Y..... 6,516       |
| Adrian, Mich..... 6,313     | Catskill, N.Y..... 5,575    | Fall River, Ma..... 16,027    | Jersey City, N.J..... 29,228  |
| Alton, Ill..... 6,382       | Corning, N.Y..... 6,003     | Fitchburg, Ma..... 7,708      | Jacksonville, Fla..... 3,126  |
| Aurora, Ill..... 6,011      | Champlain, N.Y..... 5,557   | Flushing, N.Y..... 10,189     | Jefferson, La..... 5,107      |
| Atchison, Kan..... 3,616    | Camden, N.J..... 14,958     | Flushing, N.Y..... 5,546      | Janeville, Wis..... 7,703     |
| Bangor, Me..... 16,407      | Carlisle, Pa..... 5,604     | Frederick, Md..... 5,143      | Jefferson City, Mo..... 2,500 |
| Bideford, Me..... 9,340     | Carbondale, Pa..... 5,575   | Frostburg, Md..... 6,286      | Key West, Fla..... 2,323      |
| Bath, Me..... 6,076         | Chamberburg, Pa..... 5,257  | Fredrick'sburg, Va..... 6,022 | Kingston, N.Y..... 16,940     |
| Belfast, Me..... 5,520      | Columbia, Pa..... 5,507     | Ft. Wayne, Ind..... 16,368    | Kalamazoo, Mich..... 6,070    |
| Burlington, Vt..... 7,718   | Cumby's, R..... 1,638       | Ft. de Lac, Wis..... 5,450    | Koskuk, Ia..... 1,126         |
| Boston, Ms..... 177,481     | Charleston, S.C..... 51,210 | Fort Smith, Ark..... 1,620    | Lawrence, Kan..... 1,845      |
| Beverly, Me..... 6,154      | Columbia, S.C..... 5,083    | Gloucester, Ma..... 10,908    | Leavenworth, Kan..... 7,420   |
| Blackstone, Ma..... 5,463   | Columbus, Ga..... 9,921     | Greenwich, Ct..... 5,522      | Lexington, Me..... 4,115      |
| Brookline, Ms..... 6,164    | Columbus, Miss..... 3,308   | Greenbush, N.Y..... 5,920     | Lowell, Me..... 30,927        |
| Barnstable, Ma..... 6,120   | Camden, Ark..... 1,243      | Galen, N.Y..... 5,340         | Lynn, Me..... 19,098          |
| Bristol, R.I..... 5,271     | Covington, Ky..... 16,471   | Georgetown, D.C..... 6,733    | Lawrence, Ms..... 11,680      |
| Bridgeport, Ct..... 12,229  | Cincinnati, O..... 161,474  | Holyoke, Ma..... 4,997        | Lehigh, Pa..... 13,826        |
| B'klyn, N.Y..... 266,664    | Cleveland, O..... 35,054    | Hartford, Ct..... 1,129       | Little Rock, Ark..... 3,737   |
| Buffalo, N.Y..... 81,131    | Columbus, O..... 18,556     | Galesburg, Ill..... 5,196     | Little Falls, N.Y..... 5,909  |
| B'kham, N.Y..... 5,923      | Chillicothe, O..... 7,607   | Galesburg, Ill..... 5,696     | Lieboon, N.Y..... 5,540       |
| Brighton, N.Y..... 5,396    | Chicago, Ill..... 109,262   | Golden City, Col..... 1,014   | Lansingburg, N.Y..... 5,577   |
| Barre, N.Y..... 7,227       | Canton City, Nev..... 708   | G't Salt La. City..... 218    | Lyon, N.Y..... 5,077          |
| Bath, N.Y..... 6,127        | Dover, N.H..... 5,692       | Haverhill, Ma..... 9,946      | Lancaster, Pa..... 17,903     |
| Barnes, N.J..... 7,429      | Dorchester, Ma..... 5,750   | Holyoke, Ma..... 4,997        | Lyonsburg, Pa..... 1,826      |
| Burlington, N.J..... 7,774  | Douham, N.Y..... 6,830      | Hartford, Ct..... 1,129       | Little Rock, Ark..... 3,737   |
| Birmingham, Pa..... 6,048   | Danvers, Ma..... 6,110      | Hempstead, N.Y..... 12,575    | Louisville, Ky..... 60,740    |
| Baltimore, Md..... 212,419  | Denbury, Ct..... 7,234      | Huntington, N.Y..... 926      | Lexington, Ky..... 3,321      |
| Bloomington, Ill..... 7,076 | Derby, Ct..... 5,444        | Hudson, N.Y..... 7,263        | Lafayette, Ind..... 4,526     |
| Burlington, Ia..... 6,706   | Deer Park, N.Y..... 5,186   | Hector, N.Y..... 523          | La Porte, Ind..... 5,926      |



The privilege secured under a caveat is, that it entitles the caveator to receive notice, for a period of one year, of any application for a patent filed during that time, and which is adjudged to be novel, and is likely to interfere with the invention described in the caveat; the caveator is then required to complete his application for a patent within three months from the date of such notice. Caveat-papers should be very carefully prepared. Our fee for this service varies from \$10 to \$15. The Government fee under the new law is reduced to \$10, but this sum does not apply, as heretofore, as part of the fee on presenting an application for a patent.

Inventors will oftentimes find it very important to take advantage of the caveat system, the expense being comparatively small.

To enable us to prepare caveat-papers, we require only a sketch and description of the invention; no model being necessary.

Under the security afforded by a caveat, inventors should bear in mind that they cannot prevent other parties from using their inventions. The mere filing of a caveat does not allow the caveator to sell exclusive rights, as in the case of the issue of Letters Patent. It entitles him only to the right to receive notice of an interfering application, but does not settle the question of novelty in his behalf. A caveat may be renewed from year to year upon the payment of the usual official fee.

Caveat-papers cannot be withdrawn from the office nor undergo alteration after they have once been filed; but additional papers relative to the invention may be appended to the caveat, (their date being noted,) provided they are merely amendatory of the original caveat.

The right to file a caveat extends only to citizens, or to aliens who have resided in the United States one year, and have made oath of their intention to become citizens.

#### **EXPENSE OF APPLYING FOR A PATENT, REJECTIONS, ETC.**

Under the new law, the Government fee, on filing an application for a patent, is \$15, besides \$1 revenue stamp-

tax on the power of attorney; and if the patent is allowed, \$20 additional is required. If rejected, the first fee of \$15 is all that is demanded. English, French, Prussian, Austrian, Spanish, and inventors of every nationality, may now obtain patents in the United States upon the same terms as our own citizens. The only discrimination made is against subjects of Governments that discriminate against the inhabitants of the United States.

To the foregoing official fees must be added the attorney's fee for preparing the various documents and drawings. Our charge for *preparing a case, presenting it to Government, and attending to all business connected with it, until a decision is given*, is generally \$25; but the charge is higher if unusual labor is involved. If the patent is granted, no further agency expense ensues.

If the application is rejected, we cause a *thorough investigation to be made*, at Washington, into the reasons presented by the Commissioner for refusing the patent. In making this examination we have access to all the drawings, models, books, and specifications cited in reference, and we report the result as early as possible to our client. *For this service we make no charge.*

If the rejection proves to be an unjust one—which sometimes happens—it can generally be reversed, and the patent obtained by contesting the case. *For this prosecution* we charge a fee proportionate to the extra labor involved, payable only on the issue of the patent; but our demand will be reasonable and satisfactory to our clients, and will be arranged beforehand by special agreement, and *no charge whatever will be made for this prosecution, unless we succeed in procuring the grant of LETTERS PATENT.*

**GENERAL REMARKS.**—For the information of applicants, we would state that some agents are in the habit of charging for the preparation of the case, and, having no further facilities, *decline all investigation or prosecution when rejected.* Others, also having no facilities of their own, advise their clients to go to the expense of procuring official copies of the drawings and specifications of all the references. Again, others are in the habit of charging a high price at the out-

set, in which they include the cost of prosecuting the case, if by them deemed necessary. Under this system, if the patent issues, or is justly rejected, no further prosecution is needed; but the inventor has paid full price for a service not wanted and never rendered.

Our object in making the above statement is, not to reflect upon the manner in which other agents conduct their affairs, but simply to have our own method of doing business clearly understood.

The system adopted by us works well, gives general satisfaction, and presents to all applicants, rich or poor, an equal opportunity of having their patent cases prepared, conducted and prosecuted *in the best manner*, by experienced attorneys, upon the most moderate terms. Inventors who have REJECTED CASES, prepared either by themselves or for them by other agents, and desire to ascertain their prospects of success by further efforts, are invited to avail themselves of our unequalled facilities in securing favorable results. We have been successful in securing Letters Patent in HUNDREDS OF SUCH CASES. Our terms for such services are very moderate.

#### MODELS, REMITTANCES, ETC.

The law requires that the inventor shall, in all cases, furnish a model, which must not exceed twelve inches in any of its dimensions. It should be neatly made, of hard wood or metal, or both, varnished or painted. The name of the inventor and his place of residence should be attached to it, or painted upon it conspicuously. Where the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should be sufficiently perfect, however, to show, with clearness, the nature and operation of the invention.

As soon as the model is ready, it should be carefully boxed and shipped by express or otherwise, to our address, namely, MUNN & Co., No. 37 Park Row, New-York City. Prepay the expense, and send the express receipt to us by mail.

Simultaneously with the model, the inventor should also send us the first installment of the Government fee, \$15.

The money may be forwarded either by express, with the model, or by mail. The safest way to remit is by draft on New-York, payable to our order. Always send a letter with the model, and also with the remittance, stating the name and address of the sender. We sometimes receive envelopes containing money, but without any name or explanation; models are also frequently sent us from equally unknown sources.

A full written description should also be sent with the model, embodying *all the ideas of the inventor respecting the improvement.*

On the reception of the model and Government fee, the case is duly registered upon our books, and the application proceeded with as fast as possible. When the documents are ready, we send them to the inventor by mail, for his examination, signature, and affidavit, with a letter of instruction, etc. *Our fee for preparing the case is then due*, and will be called for. Immediately on its return the case will be presented to the Patent Office, and as soon as the patent is allowed, the applicant will be notified to remit the last installment of the Government fee, namely, \$20, and the patent will then be issued.

Inventors who do business with us will be notified of the state of their application in the Patent Office, when it is possible for us to do so. We do not require the personal attendance of the inventor, unless the invention is one of great complication; the business can be done as well by correspondence.

When the invention consists of a new article of manufacture, or a new composition, samples of the separate ingredients sufficient for the purpose of experiment, and also of the manufactured article itself, must be furnished.

The average time required to procure a patent, when the case is conducted at our Agency, is six weeks. We frequently get them through in less time; but in other cases, owing to delay on the part of the officials, the period is sometimes extended to two or three months, and even more. We make a special point to forward our cases *as rapidly as possible.*

Models in rejected cases are not returned by the Patent Office. The new law authorized their return, but the Patent Office has, as yet, made no provision in this respect, and the models are therefore, as formerly, kept in the archives for reference.

### DESIGNS, TRADE-MARKS, LABELS, ETC.

Under the new law, Design-patents may be taken out for *any new form of any article*, also for tools, patterns, castings, machine-frames, stove-plates, borders, fringes; all new designs for printing, weaving, or stamping upon silks, calicoes, carpets, oil-cloth prints, paper-hangings, and other articles. Trade-marks, labels, envelopes, boxes and bottles for goods, may also be patented; likewise all works of art, including prints, paintings, busts, statues, bas-reliefs or compositions in alto or basso rilievo, new dies, impressions, ornaments to be placed or used upon any article of manufacture, architectural work, etc. The term for which Design-patents are granted varies according to the fee paid by the applicant, as follows:

|                                      |       |
|--------------------------------------|-------|
| Patent for $3\frac{1}{2}$ years..... | \$10. |
| “ 7 “ .....                          | 15.   |
| “ 14 “ .....                         | 30.   |

*No Design-models are required.* But duplicate drawings must be furnished, together with the usual specification, petition, and affidavit, which, to render the patent of value, should be prepared with the utmost care.

Our facilities for the prompt preparation and securing of Design-patents are of the most extensive character, and our charges are very moderate.

### GOING TO WASHINGTON IN PERSON.

Some inventors suppose, very naturally, that if personally present in Washington, they can get their cases through more expeditiously, or command other facilities which they

cannot enjoy by mere correspondence through an agency like ours. But this is not so. *No inventor can possibly have facilities or influence superior to our own*, for more than ONE THIRD of the entire business of the Patent Office passes through our hands; and we have an office in Washington charged with the especial duty of watching over and pressing forward the interests of our clients. The Patent Office does not prepare or amend imperfect patent-papers, or make models. These must be provided by the applicant or his attorney, according to law, *otherwise his claim will not be considered*. The new law especially requires that all papers filed in the Patent Office shall be correctly, legibly and clearly written. For the convenience of those who visit Washington in person, we will state that they can have all their patent business *promptly attended to*, by calling at our BRANCH "SCIENTIFIC AMERICAN" OFFICE, corner of Seventh and F streets, opposite the Patent Office.

#### INFRINGEMENTS.

The manufacture, sale or use of a patented article, without consent of the owner of the patent, is an *infringement*, and subjects the infringer, by injunction from the Court, to an arrest or prohibition from the employment of his machinery, shop, works, factory, and men in the production of the article. In addition to injunction, the infringer is liable to be mulcted in treble the amount of damages awarded by the jury. The maker, the workman, the seller, and the purchaser (if a user) are all liable, either collectively or individually.

Having access to all the patents, models, public records, drawings, and other documents pertaining to the Patent Office, we are prepared to make examinations and give opinions upon all infringement questions, advise as to the scope and ground covered by patents, and direct with vigor any legal proceedings therewith connected. Our charges will be moderate, and proportionate to the labor involved.

Address all letters of inquiry to MUNN & Co., No. 37 Park Row, New-York.

### STAMPS ON POWERS OF ATTORNEY.

By the Act to provide Internal Revenue to support the Government, and to pay the interest on the Public Debt, it is required by the Commissioner of Patents that a stamp or stamps to the amount of *one dollar* must be attached to all powers of attorney authorizing an agent or attorney to act for the inventor relative to applications for Patents.

The same amount of stamps must also be affixed to all powers of attorney authorizing an agent to sell Patents.

### APPEALS.

In rejected and other cases, the new law provides for an appeal from the Examiners-in-chief to the Commissioner in person, on the payment of a fee of \$20. A further appeal may be taken from the decision of the Commissioner to the United States Court of the District of Columbia. These appeals are heard by any one of the judges before whom the applicant elects to bring the case; no jury. All the papers, models, etc., are sent by the Commissioner to the judge, who then reviews the case, and either sustains or reverses the Commissioner's decision. The party taking the appeal pays an official fee of \$25. The judge appoints a day of hearing. The applicant can appear in person or by counsel to state his case and file a written argument. Five days are allowed the opponent to put in an answer, and a similar period to the appellant for a closing reply.

Many important cases are brought before the judges on appeal, and the decisions of the Commissioner are not unfrequently reversed. We have had successful experience in conducting these appeals, and our services can be retained on moderate terms.

### INTERFERENCES.

If an inventor happens to apply for a patent when another application for a similar device is pending at the Patent Office, the two cases are declared by the Commissioner

to "interfere," and each party is notified to present evidence as to the date when he first invented the thing. He who proves priority of invention receives the patent, and the other applicant is rejected.

Even after a patent has been granted, another inventor may come forward and apply for a patent for the same device; and if he can prove priority of invention the Commissioner will issue a patent to him.

The management of Interferences is one of the most important in connection with Patent Office business. Our terms for attention to Interferences are moderate, and dependent upon the time required. Address all letters to MUNN & Co., No. 37 Park Row, New-York.

### EXTENSION OF PATENTS.

Under the new law, all patents issued after March 4, 1861, continue in force seventeen years instead of fourteen, as heretofore, and cannot be extended; but patents granted prior to the above date may be extended for a period of seven years.

Many valuable patents are annually expiring which might readily be extended, and, if extended, might prove the source of wealth to their fortunate possessors.

We are persuaded that very many patents are suffered to expire without any effort at extension, owing to want of proper information on the part of the patentees, their relatives, or assigns, as to the current law and the mode of procedure in order to obtain a renewed grant.

The statute of 1836 provides that, when an inventor has failed to receive a sufficient reward for his invention, without fault on his part, during the existence of the original patent, he may apply to the Commissioner for an extension of the term; and the Commissioner, on the presentation of proper proofs touching the amounts received by the applicant, the value of the invention, etc., is empowered to extend the patent for seven years, so that it will run for a period of *twenty-one years* from its original date. Some of the most valuable grants now existing are *extended patents*.



All the documents connected with extensions require to be carefully drawn up and attended to, as any failure, discrepancy, or untruth in the proceedings or papers is liable to defeat the application. Applicants for extensions should always place the management of their cases, from first to last, in the hands of faithful and experienced patent attorneys. Ordinary lawyers or agents, who have had no experience in extension cases, should never undertake them.

Patentees or, if deceased, their heirs, may apply for the extension of patents, but must give ninety days' notice of their intention.

The assignees of a patent cannot obtain this extension—it must be done by the inventor, or, in case of his death, by his legal representatives. It must also appear to the Commissioner of Patents that the extension is to inure to the benefit of the original patentee, or he will not allow it.

Parties owning machines under the original patent will be entitled to use them after the date of extension, until these machines are worn out; but new machines cannot be built without the patentee's consent.

Patents may be extended, and preliminary advice obtained, by consulting or writing to MUNN & Co., No. 37 Park Row, New-York.

#### ABANDONMENT OF AN INVENTION.

The papers and models pertaining to all patented inventions, and also of rejected cases that are two years old, are exposed to public view at the Patent Office in Washington. When any new application for a patent is filed, the Commissioner causes an examination to be made to ascertain whether the alleged improvement has before been patented or rejected. If the same invention is found to have been on public view at the Patent Office for more than two years, either in the patented or rejected departments, the new applicant is held to have *abandoned his invention to the public*; he has not used reasonable diligence in filing his application, and he cannot receive a patent even though he may have been the earliest inventor. Many inventors suffer the loss

of their rights to a patent by reason of delay. We cannot too urgently press upon them the importance of making their applications promptly; delays are dangerous and often fatal.

#### **RE-ISSUE OF A DEFECTIVE PATENT.**

The law provides that whenever a patent, heretofore granted, is found to be inoperative or invalid by reason of a defective or imperfect description or claim, the error may be corrected by surrendering the original patent, and filing in new or amended papers, which are subject to examination the same as in the case of the original application. Under a re-issue the law does not allow an inventor to embrace different subject-matter than that shown in the original application. All the new features to be claimed must be fully shown either in the original papers or model.

A re-issue does not extend the term of the original patent. The matter of extension is treated of under another head. If the amended claims cannot be allowed, the original patent will be returned by the Commissioner upon the order of the applicant or his attorney. The patent fee on a re-issue is \$30, and the agency fee is usually \$25.

#### **VALIDITY OF PATENTS.**

It often becomes an important question whether a patent is actually valid after it is issued. A patent to be valuable must be able to stand the test of legal investigation, though it seldom happens that decisions of Courts are rendered adverse to patents that come up for trial; but it frequently happens that, in the course of such investigations, the specifications and claims may exhibit serious defects.

Purchasers of patents, or those who engage in the manufacture of patented articles, are frequently annoyed by threats of prosecution for some alleged infringement of existing patents. They will usually save themselves trouble and expense by having the necessary searches made, to determine the validity of such claims as may be made against

them, and also of the patents they are about to purchase, or in which they are interested.

It is a part of our business to investigate into the validity of patents, which necessarily involves an extended and careful search. Our fees for such services are always very reasonable.

### COPIES OF PATENTS AND CLAIMS.

Having access to all the patents granted since the rebuilding of the Patent Office, after the fire of 1836, we can furnish the claims of any patent granted since that date, for \$1.

Persons wishing copies of claims should distinctly understand that for the fee of \$1 we do not engage to furnish a copy of the specification and drawing of the patent. All we undertake to do for this small charge is to supply a written copy of the claim. If parties wish for copies of the complete patent, we can supply them from the records of the Patent Office, at charges varying from \$3 to \$25, depending upon the length of the specification and amount of drawing in each case. The Commissioner fixes his own charges for copies of patents, and does not allow them to be made except by persons connected with the Patent Office.

### LEGAL INFORMATION ABOUT PATENTS.

There are a great variety of questions arising under the patent laws, in respect to patents, which are important to all owners of patents, manufacturers, venders, etc., upon which we are frequently addressed for information and advice. We are always happy to answer these inquiries whenever we can do so, and have sought to embody them in this pamphlet, which is freely given to all; but special inquiries frequently subject us to much trouble in searching the proper authorities. Parties who thus use our time should remit a small fee to compensate us for our services; or if they prefer to search for themselves, we refer them to the continuous files since 1844 of the **SCIENTIFIC AMERICAN**, which contain information upon every conceivable point relating to patents and the Patent Law.

### THE SALE OF PATENTS.

We are frequently receiving letters requesting us to act as agents for the sale of patents, or to procure capitalists to aid inventors in bringing out their discoveries. We are desirous of aiding inventors all that we possibly can, but we made it a rule at the outset of our professional career, not to engage in the sale of patents. We thus keep ourselves free from all suspicion of speculating in inventions. We devote our entire time to the interests of our clients, and to the publication of the *SCIENTIFIC AMERICAN*, leaving the introduction and sale of patents to others. We have no pecuniary interests whatever in any existing patent, though we are frequently offered favorable opportunities to take such interests. We offer the free use of the columns of the *SCIENTIFIC AMERICAN* to patentees to illustrate and describe their improvements, charging for the cost of the engravings, which will be given to the inventor after publication. This is undoubtedly the best medium in the world through which to bring out new and useful improvements.

### PATENTS IN CANADA.

Frequent inquiry is made of us respecting the taking-out of patents in Canada. Under the present colonial law, patents can only be secured by resident subjects, who must be the inventors of the thing for which the patent is sought. This effectually cuts off American citizens from that protection which, under the ordinary principles of reciprocity, ought to exist between ourselves and those colonies. This illiberal system is a disgrace to the statute-book, and we hope it will soon be repealed. Owing to this discrimination, all Canadians who apply for patents here have to pay a Government fee of \$500. As soon as the Canadian law is modified so as to allow our citizens to enjoy equal protection, Canadians will at once enjoy all the advantages afforded by our law.

### THE INVENTOR MUST APPLY FOR THE PATENT.

It is necessary in all cases that an application for a patent should be made by the *inventor*. He cannot transfer this by right to another, as he must make oath to the invention. The inventor can, by assignment at the time the application is made, transfer his rights, so that the patent may issue to assignees. Foreign inventors frequently labor under the misapprehension that, by means of a power-of-attorney, the application can be made by another party.

### RECORDING ASSIGNMENTS.

There are three classes of assignments that must be put upon record at the Patent Office, within three months from their date, in order to insure their validity against subsequent purchasers. These are, first, an assignment of the entire patent; second, an undivided portion of a patent; third, the sale of an exclusive right under a patent for a particular territory.

Under the Internal Revenue Act of July 1, 1862, all assignments of patents, whether stamped or not, will be recorded, and the fact whether or not the instrument recorded is stamped will be noted upon the record. In order to make these assignments operative in law, a stamp must be put upon them, either before or after their record, to the value of *five cents*, on every sheet or piece of paper. This refers only to assignments recorded after the first of January, 1863. No assignment *directing a patent to issue to an assignee or assignees*, dated after the first day of January, 1863, will be recognized by the Patent Office, unless every sheet or piece of paper, upon which such assignment shall be written, shall have affixed thereto a stamp of the value of *five cents*.

We attend to preparing and putting assignments on record.

**SUGGESTIONS ABOUT FOREIGN PATENTS.**

American inventors should bear in mind that, as a general rule, any invention which is valuable to the patentee in this country, is worth equally as much in England and some other foreign countries. Four patents—American, English, French and Belgian—will secure an inventor exclusive monopoly to his discovery among *one hundred millions* of the most intelligent people in the world. The facilities of business and steam communication are such that patents can be obtained abroad by our citizens almost as easily as at home. The majority of all patents taken out by Americans in foreign countries are obtained through the **SCIENTIFIC AMERICAN PATENT AGENCY**. Having established agencies at all the principal European seats of Government, we obtain patents in Great Britain, France, Belgium, Prussia, Austria, Spain, etc., with promptness and dispatch. *A Circular, containing further information and a synopsis of the Patent Laws of various countries, will be furnished on application to Messrs. MUNN & Co., No. 37 Park Row, New-York.*

It is generally much better to apply for foreign patents *simultaneously* with the application here; or, if this cannot be conveniently done, as little time as possible should be lost after the patent is issued, as the laws in some foreign countries allow patents to any one who first makes the application, and in this way many inventors are deprived of valid patents for their own inventions. Many valuable inventions are yearly introduced into Europe from the United States by parties ever on the alert to pick up whatever they can lay their hands upon that may seem useful.

Models are not required in any European country, but the utmost care and experience are necessary in the preparation of the specifications and drawings.

When parties intend to take out foreign patents, engravings should not be published until the foreign applications have been made.

**CAUTION.**—It has become a somewhat common practice for agents located in England to send out circulars solicit-

ing the patronage of American inventors. We caution the latter against heeding such solicitations, or they may otherwise fall into the hands of irresponsible parties, and thus be defrauded of their rights. It is much safer for inventors to intrust their cases to the care of a competent, reliable agent at home.

While it is true of most European countries that the system of examination is not so rigid as that practiced in this country, yet it is vastly important that inventors should have their papers prepared only by the most competent solicitors, in order that they may stand the test of a searching legal examination; as it is a common practice, when a patentee finds a purchaser for his invention, for the latter to cause such examination to be made before he will accept the title.

It is also very unsafe to intrust a useful invention to any other than a solicitor of known integrity and ability. Inventors should beware of speculators, whether in the guise of Patent Agents or Patent Brokers, as they cannot ordinarily be trusted with valuable inventions.

Messrs. MUNN & Co. have been established *seventeen years* as American and Foreign Patent Attorneys, and Publishers of the SCIENTIFIC AMERICAN, and during this time they have been intrusted with some of the most important inventions of the age; and it is a matter of pardonable pride in them to state that not a single case can be adduced in which they have ever betrayed the important trust committed to their care. Their agents in London, Paris, and other Continental cities are among the oldest and most reliable Patent Solicitors in Europe; MUNN & Co. will have no connection with any other.

#### GENERAL REMARKS.

MESSRS. MUNN & Co. have been personally familiar with the progress of invention and discovery during *seventeen years*. As an evidence of the confidence reposed in their ability and integrity, they may with propriety refer to the extraordinary fact that more than THREE THOUSAND PATENTS have been issued to their clients in the brief

space of only TWO YEARS; and during the same period they have examined, through their efficient Branch Office in Washington, into the novelty of over *four thousand inventions*; thus affording to them a knowledge of the contents of the Patent Office unrivaled by any existing agency. Not only this, but more than one half of all the patents secured by American citizens in European countries are taken through MUNN & CO.'S AGENCIES IN LONDON, PARIS, BRUSSELS, BERLIN, AND VIENNA.

During a single month in 1860, *one hundred and forty-four American Patents* were issued to our clients.

The convenient proximity of our Washington house to the Patent Office gives us rare facilities for the examination of all the official records, models, drawings, specifications, documents, etc. We can promptly furnish copies of any patent, assignment, etc. Searches made as to the sale or transfer of rights. Assignments and special agreements carefully prepared, etc.

In addition to the advantages which the long experience and great success of our firm in obtaining patents present to inventors, they are informed that all inventions patented through our establishment are noticed, *at the proper time*, in the SCIENTIFIC AMERICAN. This paper is read by more than one hundred thousand persons every week, and has the most extensive and influential circulation of all the journals of its kind in the world.

We make these statements in order that parties who come to us for aid and information may feel, at the outset, that they are applying to men who are reliable, skillful, and successful in the business.

No individual in the country can possibly have so good an opportunity of knowing and judging as to the extent of business and the qualifications of patent attorneys as the *Commissioner of Patents*. That officer is charged with the entire administration of the U. S. Patent Office. All its records are under his keeping and supervision; all correspondence is signed by him; and all patents issued are laid before him for signature. A certificate from a source so high and authentic can not fail to command general respect



and attention. Judge MASON, upon retiring from the office of Commissioner of Patents, sent us the following very flattering written testimonial:

**Messrs. MUNN & Co.:**—I take pleasure in stating that, while I held the office of Commissioner of Patents, MORE THAN ONE-FOURTH OF ALL THE BUSINESS OF THE OFFICE CAME THROUGH YOUR HANDS. I have no doubt that the public confidence thus indicated has been fully deserved, as I have always observed, in all your intercourse with the office, a marked degree of promptness, skill, and fidelity to the interests of your employers.

Yours, very truly,

CHAS. MASON.

Judge MASON was succeeded by that eminent patriot and statesman, Hon. JOSEPH HOLT, whose administration of the Patent Office was so distinguished that, upon the death of Gov. Brown, he was appointed to the office of Postmaster-General of the United States. Soon after entering upon his new duties, in March, 1859, he addressed us the following very gratifying letter:

**Messrs. MUNN & Co.:**—It affords me much pleasure to bear testimony to the able and efficient manner in which you discharged your duties as Solicitors of Patents, while I had the honor of holding the office of Commissioner. Your business was very large, and you sustained (and I doubt not justly deserved) the reputation of energy, marked ability, and uncompromising fidelity in performing your professional engagements.

Very respectfully, your obedient servant, J. HOLT.

Hon. WM. D. BISHOP, late Member of Congress from Connecticut, succeeded Mr. HOLT as Commissioner of Patents. Upon resigning the office, he wrote to us as follows:

**Messrs. MUNN & Co.:**—It gives me much pleasure to say that, during the time of my holding the office of Commissioner of Patents, a very large proportion of the business of inventors before the Patent Office was transacted through your agency; and that I have ever found you faithful and

devoted to the interests of your clients, as well as eminently qualified to perform the duties of Patent Attorneys with skill and accuracy.

Very respectfully, your ob't servant, WM. D. BISHOP.

One great reason for our unrivaled success is, that our affairs are so systematized and arranged, under our personal direction, that every patent case submitted to our care receives the most careful study during its preparation, the most prompt dispatch when all the patent-papers are completed, and the most thorough attention at every stage of its subsequent progress.

We employ, to assist us, the most experienced corps of examiners, specification-writers, and draughtsmen, that can be found. We have a branch house at Washington, supervised by one of our partners, and located directly opposite to the Patent Office, for the especial purpose of attending to the interests of our clients, making searches, examinations, etc. In sort, we believe that no other concern can present so great an array of talent, business facilities, influence, and practical experience, as that which we throw open to the service of our clients.

All communications should be addressed to MUNN & CO., No. 37 Park Row, New-York.

#### MISCELLANEOUS ITEMS.

Employers have sometimes supposed that inventions made by persons while in their service properly belonged to them. The claim is presumptuous and unwarrantable, unless there exists a special agreement to the contrary. If the inventor under such circumstances was not especially employed to bring out the invention for his employer's benefit, the latter has no right to it.

Under a recent decision of the Attorney-General, it is held that all free native-born persons, without distinction as to age, sex or color, are *citizens*, within the meaning of the Constitution; consequently, all such may apply for patents.

Inventors may publicly use and sell their inventions for

two years *prior* to making application for a patent, but cannot hinder others from doing the same thing; and should any party put the invention into use before such application for a patent is made, they could continue to use the specific machine or composition of matter after the patent is issued to another.

Inventors ought to be reasonably careful about exposing their inventions, and are urged to apply for their patents with all reasonable dispatch.

Minors can take out patents without the consent of their natural or legal guardians; but in order to transfer their rights while in their minority, they would need to obtain an order from the Court authorizing such transfer of property.

The opinion prevails among Patent Lawyers that one of the owners of a joint patent may use and sell the invention for his own benefit, so long as he does not debar the other owners from the right to do the same. We know of no decision of the Courts on this point.

A patent is held subject to the laws of the United States, and cannot therefore be attached for debt by the ordinary process of attachment under the laws of the various States; a patented machine, however, can be attached the same as other material property. In case, however, of the bankruptcy of a patentee, his patent-right could be assigned, by operation of law, by his legal assignee or receiver.

The Commissioner of Patents has no power to annul an existing patent. He can order an interference to be declared between an existing patent and a pending application for a patent for the same invention, and then require testimony from each party in order to substantiate the question of priority of invention. If this is proved by the applicant for the pending case, the Commissioner exercises the right to grant the second patent. The evidence produced in the examination would confer a *prima facie* right upon the successful party.

Each State exercises the right to decide *what* shall be sold, and *how* it shall be sold, within its borders, under what are known as license laws; therefore peddlers of pat-

ented articles cannot sell them in any State where such laws exist, without obtaining a license from the proper authorities; but an inventor, we think, may sell rights under his patent without regard to license laws.

#### **STAMPING PATENTED ARTICLES.**

Under this head the reader will find the requirements of the Patent Law fully set forth in Section 13th of the Patent Law Amendment Act, printed on another page. No patentee should fail to stamp the date of the issuance of his patent on the article offered for sale, as otherwise his rights are liable to be infringed with impunity. Any one who stamps "Patent" on an article which is not patented, is guilty of fraud on the public and is liable to fine.

#### **OF GIVING OR WITHHOLDING INFORMATION.**

Aside from the caveats, which are required by law to be kept secret, all pending applications at the Patent Office are, as far as practicable, preserved in like secrecy. No information will be given to those inquiring whether any particular application is before the office, or whether any particular person has applied for a patent.

In cases where two applications interfere, and a declaration to that effect is made by the Commissioner, each of the contestants is entitled to a knowledge of so much of his antagonist's case as is necessary for the proper management of his own.

The Patent Office does not answer inquiries as to the novelty of an alleged invention in advance of an application for a patent. Business with the Patent Office is conducted under prescribed rules, made in accordance with the laws, and the Commissioner cannot disregard them. Inventors ought always to act under the advice of competent attorneys.

#### **THE IMPORTANCE OF THE SPECIFICATION.**

Too much importance cannot be attached, by an applicant for a patent, to the manner in which the specification

and drawings are prepared, as upon these will depend the *legal* value of the patent. Many inventors suppose that by taking the forms of specification, petition, and oath here prescribed by the Patent Office, they will have no trouble in getting an official decision upon their applications. This is an erroneous impression, and has led many applicants into great trouble and expense, much more than they would have incurred if they had employed, at the outset, a competent and experienced patent solicitor. This matter is so very important, that Curtis, in his celebrated Treatise on the Law of Patents, devotes eighty-one pages to its consideration.

The specification must describe in full, clear, and exact terms the nature and operation of the invention; and the claim on which the patent will be founded, when granted, must be very carefully drawn. While it is easy, comparatively, to prepare drawings for a patent, the specification should never be undertaken except by one who thoroughly understands the business.

#### **RETAINING PATENTS IN THE SECRET ARCHIVES.**

No application upon which a patent has been ordered to issue shall be retained in the secret archives of the Office more than six months from the day on which the patent was ordered to issue. The request to have the application placed in the secret archives shall in all cases be made by the patentee, or the assignee of all the interest therein, in writing, and filed with the chief clerk, before the patent shall be ordered to issue.

#### **OF FOREIGN PATENTS.**

The taking out of a patent in a foreign country does not prejudice a patent previously obtained here; nor does it prevent obtaining a patent here subsequently.

When the patent is applied for here after being obtained abroad, it will expire with the date of the foreign patent. For this reason such cases will be acted upon out of their order, and as soon as the application is completed.

If the applicant is an alien not residing in the United States, or if he has not taken the necessary steps to become naturalized, the oath must be modified accordingly.

The oath may be taken before any person authorized by law to administer oaths.

When the oath is taken *in a foreign country*, it must be taken before any minister plenipotentiary, chargé d'affaires, consul, or commercial agent, holding commission under the government of the United States, or before any notary public of the country in which the oath is taken, being attested in all cases by the proper official seal.

#### WHO ARE ENTITLED TO PATENTS.

Any person, whether citizen or alien, may obtain a patent for any invention or improvement made by him, and not before known.

The assignee of any invention may have the patent issue to him directly, but this is held to apply only to assignees of entire interests; so that, although when the inventor assigns his *entire* interest to two or more, a patent will issue to them jointly, still if he yet retains an unequal portion in himself, a joint patent will not be issued to him and them.

In case of the death of the inventor, the patent will issue to his legal representatives.

Joint inventors are entitled to a joint patent; but neither can claim one separately.

#### WHAT WILL PREVENT THE GRANTING OF A PATENT.

Even although the applicant has in good faith actually made an invention, a patent therefor will not be granted him if the whole or any part of *what he claims* as new had before been patented, or described in any printed publication, in this or any foreign country, or even if it had before been invented or discovered *in this country*, or if he has once abandoned his invention to the public; or if, with his consent and allowance, it has been for more than two years in public use or on sale.

The mere fact of prior invention or discovery abroad will not prevent the issue of the patent, unless the invention had been there patented, or described in some printed publication.

Merely conceiving the idea of an improvement or machine in this country, is not such an "invention" or "discovery" as is above contemplated. The invention must have been reduced to a practical form, either by the construction of the machine itself, or of a model thereof, or at least by making a drawing of it, or in some other manner equally descriptive of its character.

Inventions for which patents are solicited are duly classified in the Patent-Office, for examination, and are taken up in their order, in classes—and not, as some suppose, in regular rotation—on "the first come first served" principle. Cases can not be thus examined, as such a system would lead to confusion.

Whenever the class comes up to which the invention belongs, it will receive examination, even though the case may not have been on file more than one day, and it must wait till the class does come up, though it may be one, three, or six months.

### SCHEDULE OF PATENT FEES.

Under the new Patent Law, the following schedule of fees is established :

|                                                                  |      |
|------------------------------------------------------------------|------|
| On filing each Caveat,.....                                      | \$10 |
| On filing each application for a Patent, except for a design,... | 15   |
| On issuing each original Patent,.....                            | 20   |
| On appeal to Commissioner of Patents,.....                       | 20   |
| On application for Re-issue,.....                                | 30   |
| On application for Extension of Patent,.....                     | 50   |
| On granting the Extension,.....                                  | 50   |
| On filing Disclaimer,.....                                       | 10   |
| On filing application for Design, three and a half years,.....   | 10   |
| On filing application for Design, seven years,.....              | 15   |
| On filing application for Design, fourteen years,.....           | 30   |

The duration of patents granted under the present law is prolonged to SEVENTEEN years, and the Government fee required on filing an application for a patent is reduced from

\$80 to \$15, and \$20 additional when the patent is ordered to issue.

### INVITATION TO INVENTORS.

Inventors who come to New-York should not fail to pay a visit to the extensive offices of MUNN & Co. They will find a large collection of models of various inventions, which will afford them much pleasure. The whole establishment is one of great interest to inventors, and is undoubtedly the most spacious and best arranged in the world.

MUNN & Co. wish it to be distinctly understood that they do not speculate or traffic in patents, under any circumstances.

### THE BEST MODE OF INTRODUCING INVENTIONS.

Inventors and constructors of new and useful Contrivances or Machines, of whatever kind, can have their Inventions illustrated and described in the columns of the SCIENTIFIC AMERICAN on payment of a reasonable charge for the engraving.

No charge is made for the publication, and the cuts are furnished to the party for whom they are executed as soon as they have been used. We wish it understood, however, that no second-hand or poor engravings, such as patentees often get executed by inexperienced artists for printing circulars and handbills from, can be admitted into these pages. We also reserve the right to accept or reject such subjects as are presented for publication. And it is not our desire to receive orders for engraving and publishing any but good Inventions or Machines, and such as do not meet our approbation in this respect, we shall decline to publish.

A patentee can not possibly adopt any other medium which is equal to this, in order to make known his improvement. The judicious use of the newspaper press is one of the surest roads to success in business.

Address

MUNN & CO.,

37 Park Row, N. Y.



## THE NEW PATENT LAW.

### AN ACT IN ADDITION TO "AN ACT TO PROMOTE THE PROGRESS OF THE USEFUL ARTS."

**SECTION 1.** *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the Commissioner of Patents may establish rules for taking affidavits and depositions required in cases pending in the Patent Office, and such affidavits and depositions may be taken before any justice of the peace, or other officer authorized by law to take depositions to be used in the courts of the United States, or in the State courts of any State where such officer shall reside; and in any contested case pending in the Patent Office, it shall be lawful for the clerk of any court of the United States for any district or Territory, and he is hereby required, upon the application of any party to such contested case, or the agent or attorney of such party, to issue subpoenas for any witnesses residing or being within the said district or Territory, commanding such witnesses to appear and testify before any justice of the peace, or other officer as aforesaid, residing within the said district or Territory, at any time and place in the subpoena to be stated; and if any witness, after being duly served with such subpoena, shall refuse or neglect to appear, or, after appearing, shall refuse to testify, (not being privileged from giving testimony,) such refusal or neglect being proved to the satisfaction of any judge of the court whose clerk shall have issued such subpoena, said judge may thereupon proceed to enforce obedience to the process, or to punish the disobedience in like manner as any court of the United States may do in case of disobedience to process of *subpoena ad testificandum* issued by such court; and witnesses in such cases shall be allowed the same compensation as is allowed to witnesses attending the courts of the United States: *Provided*, That no witness shall be required to attend at any place more than forty miles from the place where the subpoena shall be served upon him to give a deposition under this law: *Provided, also*, That no witness shall be deemed guilty of contempt for refusing to disclose any secret invention made or owned by him: *And provided, further*, That no witness shall be deemed guilty of contempt for disobeying any subpoena directed to him by virtue of this act, unless his fees for going to, returning from, and one day's attendance at the place of examination shall be paid or tendered to him at the time of the service of the subpoena.

**SEC. 2.** *And be it further enacted,* That, for the purpose of secur-

ing greater uniformity of action in the grant and refusal of Letters Patent, there shall be appointed by the President, by and with the advice and consent of the Senate, three Examiners-in-Chief, at an annual salary of three thousand dollars each, to be composed of persons of competent legal knowledge and scientific ability, whose duty it shall be, on the written petition of the applicant for that purpose being filed, to revise and determine upon the validity of decisions made by Examiners when adverse to the grant of Letters Patent; and also to revise and determine in like manner upon the validity of the decisions of Examiners in interference cases, and when required by the Commissioner in application for the extension of patents, and to perform such other duties as may be assigned to them by the Commissioner; that from their decisions appeals may be taken to the Commissioner of Patents in person, upon payment of the fee hereinafter prescribed; that the said Examiners-in-Chief shall be governed in their action by the rules to be prescribed by the Commissioner of Patents.

SEC. 3. *And be it further enacted*, That no appeal shall be allowed to the Examiners-in-Chief from the decisions of the Primary Examiners, except in interference cases, until after the application shall have been twice rejected; and the second examination of the application by the Primary Examiner shall not be had until the applicant, in view of the references given on the first rejection, shall have renewed the oath of invention, as provided for in the seventh section of the act entitled, "An act to promote the progress of the useful arts, and to repeal all acts and parts of acts heretofore made for that purpose," approved July fourth, eighteen hundred and thirty-six.

SEC. 4. *And be it further enacted*, That the salary of the Commissioner of Patents, from and after the passage of this act, shall be four thousand five hundred dollars per annum, and the salary of the Chief Clerk of the Patent Office shall be two thousand five hundred dollars, and the salary of the Librarian of the Patent Office shall be eighteen hundred dollars.

SEC. 5. *And be it further enacted*, That the Commissioner of Patents is authorized to restore to the respective applicants, or, when not removed by them, to otherwise dispose of such of the models belonging to rejected applications as he shall not think necessary to be preserved. The same authority is also given in relation to all models accompanying applications for designs. He is further authorized to dispense in future with models of designs, when the design can be sufficiently represented by a drawing.

SEC. 6. *And be it further enacted*, That the tenth section of the act, approved the third of March, eighteen hundred and thirty-seven, authorizing the appointment of agents for the transportation of models and specimens to the Patent Office, is hereby repealed.

SEC. 7. *And be it further enacted*, That the Commissioner is further authorized, from time to time, to appoint, in the manner already provided for by law, such an additional number of principal Examiners, First Assistant Examiners, and Second Assistant Examiners as may be required to transact the current business of the Office with dispatch, provided the whole number of additional Examiners shall not

exceed four of each class, and that the total annual expenses of the Patent Office shall not exceed the annual receipts.

SEC. 8. *And be it further enacted*, That the Commissioner may require all papers filed in the Patent Office, if not correctly, legibly, and clearly written, to be printed at the cost of the parties filing such papers; and for gross misconduct he may refuse to recognize any person as a patent agent, either generally or in any particular case; but the reasons of the Commissioner for such refusal shall be duly recorded, and subject to the approval of the President of the United States.

SEC. 9. *And be it further enacted*, That no money paid as a fee on any application for a patent, after the passage of this act, shall be withdrawn or refunded, nor shall the fee paid on filing a caveat be considered as part of the sum required to be paid on filing a subsequent application for a patent for the same invention.

That the three months' notice given to any caveator, in pursuance of the requirements of the twelfth section of the act of July fourth, eighteen hundred and thirty-six, shall be computed from the day on which such notice is deposited in the Post-Office, at Washington, with the regular time for the transmission of the same added thereto, which time shall be indorsed on the notice; and that so much of the thirteenth section of the act of Congress, approved July fourth, eighteen hundred and thirty-six, as authorizes the annexing to Letters Patent of the description and specification of additional improvements, is hereby repealed, and in all cases where additional improvements would now be admissible, independent patents must be applied for.

SEC. 10. *And be it further enacted*, That all laws now in force fixing the rate of the Patent Office fees to be paid, and discriminating between the inhabitants of the United States and those of other countries which shall not discriminate against the inhabitants of the United States, are hereby repealed, and in their stead the following rates are established:

On filing each caveat, ten dollars.

On filing each original application for a patent, except for a design, fifteen dollars.

On issuing each original patent, twenty dollars.

On every appeal from the Examiners-in-Chief to the Commissioner, twenty dollars.

On every application for the re-issue of a patent, thirty dollars.

On every application for the extension of a patent, fifty dollars; and fifty dollars in addition on the granting of every extension.

On filing each disclaimer, ten dollars.

For certified copies of patents and other papers, ten cents per hundred words.

For recording every assignment, agreement, power of attorney, and other papers of three hundred words or under, one dollar.

For recording every assignment, and other papers, over three hundred and under one thousand words, two dollars.

For recording every assignment or other writing, if over one thousand words, three dollars.

For copies of drawings, the reasonable cost of making the same.

**SEC. 11.** *And be it further enacted,* That any citizen or citizens, or alien or aliens, having resided one year in the United States, and taken the oath of his, her, or their intention to become a citizen or citizens, who, by his, her, or their own industry, genius, efforts, and expense, may have invented or produced any new and original design for a manufacture, whether of metal or other material or materials, and original design for a bust, statue, or bas-relief, or composition in alto or basso relievo, or any new and original impression or ornament, or to be placed on any article of manufacture, the same being formed in marble or other material, or any new and useful pattern, or print, or picture, to be either worked into or worked on, or printed, or painted, or cast, or otherwise fixed on any article of manufacture, or any new and original shape or configuration of any article of manufacture not known or used by others before his, her, or their invention or production thereof, and prior to the time of his, her, or their application for a patent therefor, and who shall desire to obtain an exclusive property or right therein to make, use, sell, and vend the same, or copies of the same to others, by them to be made, used, and sold, may make application in writing to the Commissioner of Patents, expressing such desire; and the Commissioner, on due proceedings had, may grant a patent therefor, as in the case now of application for a patent, for the term of three and one half years, or for the term of seven years, or for the term of fourteen years, as the said applicant may elect in his application: *Provided,* That the fee to be paid in such application shall be, for the term of three years and six months, ten dollars, for seven years fifteen dollars, and for fourteen years thirty dollars. *And provided,* That the patentees of designs under this act shall be entitled to the extension of their respective patents for the term of seven years from the day on which said patents shall expire, upon the same terms and restrictions as are now provided for the extension of Letters Patent.

**SEC. 12.** *And be it further enacted,* That all applications for patents shall be completed and prepared for examination within two years after the filing of the petition, and in default thereof, they shall be regarded as abandoned by the parties thereto, unless it be shown to the satisfaction of the Commissioner of Patents that such delay was unavoidable, and all applications now pending shall be treated as if filed after the passage of this act; and all applications for the extension of patents shall be filed at least ninety days before the expiration thereof; and notice of the day set for the hearing of the case shall be published, as now required by law, for at least sixty days.

**SEC. 13.** *And be it further enacted,* That in all cases where an article is made or vended by any person under the protection of Letters Patent, it shall be the duty of such person to give sufficient notice to the public that said article is so patented, either by fixing thereon the word patented, together with the day and year the patent was granted; or when, from the character of the article patented, that may be impracticable, by enveloping one or more of the said articles, and affixing a label to the package, or otherwise attaching thereto a label on which the notice, with the date, is printed; on failure of which, in any suit for the infringement of Letters Patent by the party failing so to mark the article, the right to which is infringed upon, no damage shall be recovered by

the plaintiff, except on proof that the defendant was duly notified of the infringement, and continued after such notice to make or vend the article patented. And the sixth section of the act, entitled, "An Act in addition to an act to promote the progress of the useful arts," and so forth, approved the twenty-ninth day of August, eighteen hundred and forty-two, be, and the same is hereby, repealed.

SEC. 14. *And be it further enacted*, That the Commissioner of Patents be, and he is hereby authorized to print, or, in his discretion, to cause to be printed, ten copies of the description and claims of all patents which may hereafter be granted, and ten copies of the drawings of the same, when drawings shall accompany the patents: *Provided*, The cost of printing the text of said descriptions and claims shall not exceed, exclusive of stationery, the sum of two cents per hundred words for each of said copies, and the cost of the drawings shall not exceed fifty cents per copy; one copy of the above number shall be printed on parchment, to be affixed to the Letters Patent. The work shall be under the direction, and subject to the approval, of the Commissioner of Patents, and the expense of the said copies shall be paid for out of the patent fund.

SEC. 15. *And be it further enacted*, That printed copies of the Letters Patent of the United States, with the seal of the Patent Office affixed thereto, and certified and signed by the Commissioner of Patents, shall be legal evidence of the contents of said Letters Patent in all cases.

SEC. 16. *And be it further enacted*, That all patents hereafter granted shall remain in force for the term of seventeen years from the date of issue, and all extensions of such patents are hereby prohibited.

SEC. 17. *And be it further enacted*, That all acts and parts of acts heretofore passed which are inconsistent with the provisions of this act, be, and the same are hereby, repealed.

Approved March 2, 1861.

NOTE.—Messrs. MUNN & Co. will undertake to advise patentees and assignees in respect to all questions arising under the law of patents, and will supply them with all necessary legal counsel in reference to the bringing of suits for infringements, and the defence of the same; also in interfering and extension cases.

**INTERESTING LETTERS FROM INVENTORS  
AND PATENTEES.**

The accompanying correspondence is but a small portion of that which has been addressed to Messrs. MUNN & Co., testifying to their unparalleled success in prosecuting applications for patents. These letters are uniformly written in excellent taste, and reflect credit upon their authors. It is a mistake to suppose that inventors as a class are ignorant men; such letters as are herewith presented are a complete refutation of such an assertion.

Messrs. MUNN & Co. have received hundreds of such letters from their grateful clients from all sections of the country. If republics are ungrateful, inventors are not.

**MESSRS. MUNN & Co.:**—During the past three months I have employed you to prepare and prosecute six applications for patents, and I take pleasure in stating that all these cases were granted without any essential alteration in the papers. In all my experience as an inventor, which covers a space of twenty-five years, (my first patent was granted in 1834,) I have never had applications so thoroughly and satisfactorily prepared. Any one contemplating to procure patents has but to visit your immense establishment, and watch the complete system which governs it throughout—as I have done from day to day—to be satisfied that it is the place, above all others, to apply for information and professional aid in all matters pertaining to Letters Patent for inventions. Tendering to you and your efficient corps of examiners my thanks for the courtesy and fidelity shown to me and to my business, I am, gentlemen,

Your obliged friend, JOHN W. COCHRAN.

*New-York.*

**MESSRS. MUNN & Co.:**—Noticing from time to time, in the columns of the *SCIENTIFIC AMERICAN*, extracts of letters from parties for whom you have acted as attorneys, complimentary to you, I beg to state my own experience in obtaining patents through your agency, as a testimonial of my appreciation of your ability in preparing patent-papers and

and drawings are prepared, as upon these will depend the *legal* value of the patent. Many inventors suppose that by taking the forms of specification, petition, and oath here prescribed by the Patent Office, they will have no trouble in getting an official decision upon their applications. This is an erroneous impression, and has led many applicants into great trouble and expense, much more than they would have incurred if they had employed, at the outset, a competent and experienced patent solicitor. This matter is so very important, that Curtis, in his celebrated Treatise on the Law of Patents, devotes eighty-one pages to its consideration.

The specification must describe in full, clear, and exact terms the nature and operation of the invention; and the claim on which the patent will be founded, when granted, must be very carefully drawn. While it is easy, comparatively, to prepare drawings for a patent, the specification should never be undertaken except by one who thoroughly understands the business.

#### **RETAINING PATENTS IN THE SECRET ARCHIVES.**

No application upon which a patent has been ordered to issue shall be retained in the secret archives of the Office more than six months from the day on which the patent was ordered to issue. The request to have the application placed in the secret archives shall in all cases be made by the patentee, or the assignee of all the interest therein, in writing, and filed with the chief clerk, before the patent shall be ordered to issue.

#### **OF FOREIGN PATENTS.**

The taking out of a patent in a foreign country does not prejudice a patent previously obtained here; nor does it prevent obtaining a patent here subsequently.

When the patent is applied for here after being obtained abroad, it will expire with the date of the foreign patent. For this reason such cases will be acted upon out of their order, and as soon as the application is completed.

If the applicant is an alien not residing in the United States, or if he has not taken the necessary steps to become naturalized, the oath must be modified accordingly.

The oath may be taken before any person authorized by law to administer oaths.

When the oath is taken *in a foreign country*, it must be taken before any minister plenipotentiary, chargé d'affaires, consul, or commercial agent, holding commission under the government of the United States, or before any notary public of the country in which the oath is taken, being attested in all cases by the proper official seal.

#### WHO ARE ENTITLED TO PATENTS.

Any person, whether citizen or alien, may obtain a patent for any invention or improvement made by him, and not before known.

The assignee of any invention may have the patent issue to him directly, but this is held to apply only to assignees of entire interests; so that, although when the inventor assigns his *entire* interest to two or more, a patent will issue to them jointly, still if he yet retains an unequal portion in himself, a joint patent will not be issued to him and them.

In case of the death of the inventor, the patent will issue to his legal representatives.

Joint inventors are entitled to a joint patent; but neither can claim one separately.

#### WHAT WILL PREVENT THE GRANTING OF A PATENT.

Even although the applicant has in good faith actually made an invention, a patent therefor will not be granted him if the whole or any part of *what he claims* as new had before been patented, or described in any printed publication, in this or any foreign country, or even if it had before been invented or discovered *in this country*, or if he has once abandoned his invention to the public; or if, with his consent and allowance, it has been for more than two years in public use or on sale.



The mere fact of prior invention or discovery abroad will not prevent the issue of the patent, unless the invention had been there patented, or described in some printed publication.

Merely conceiving the idea of an improvement or machine in this country, is not such an "invention" or "discovery" as is above contemplated. The invention must have been reduced to a practical form, either by the construction of the machine itself, or of a model thereof, or at least by making a drawing of it, or in some other manner equally descriptive of its character.

Inventions for which patents are solicited are duly classified in the Patent-Office, for examination, and are taken up in their order, in classes—and not, as some suppose, in regular rotation—on "the first come first served" principle. Cases can not be thus examined, as such a system would lead to confusion.

Whenever the class comes up to which the invention belongs, it will receive examination, even though the case may not have been on file more than one day, and it must wait till the class does come up, though it may be one, three, or six months.

### SCHEDULE OF PATENT FEES.

Under the new Patent Law, the following schedule of fees is established :

|                                                                  |      |
|------------------------------------------------------------------|------|
| On filing each Caveat.....                                       | \$10 |
| On filing each application for a Patent, except for a design,... | 15   |
| On issuing each original Patent.....                             | 20   |
| On appeal to Commissioner of Patents.....                        | 20   |
| On application for Re-issue.....                                 | 30   |
| On application for Extension of Patent.....                      | 50   |
| On granting the Extension.....                                   | 50   |
| On filing Disclaimer.....                                        | 10   |
| On filing application for Design, three and a half years.....    | 10   |
| On filing application for Design, seven years.....               | 15   |
| On filing application for Design, fourteen years.....            | 30   |

The duration of patents granted under the present law is prolonged to SEVENTEEN years, and the Government fee required on filing an application for a patent is reduced from

\$80 to \$15, and \$20 additional when the patent is ordered to issue.

### INVITATION TO INVENTORS.

Inventors who come to New-York should not fail to pay a visit to the extensive offices of MUNN & Co. They will find a large collection of models of various inventions, which will afford them much pleasure. The whole establishment is one of great interest to inventors, and is undoubtedly the most spacious and best arranged in the world.

MUNN & Co. wish it to be distinctly understood that they do not speculate or traffic in patents, under any circumstances.

### THE BEST MODE OF INTRODUCING INVENTIONS.

Inventors and constructors of new and useful Contrivances or Machines, of whatever kind, can have their Inventions illustrated and described in the columns of the SCIENTIFIC AMERICAN on payment of a reasonable charge for the engraving.

No charge is made for the publication, and the cuts are furnished to the party for whom they are executed as soon as they have been used. We wish it understood, however, that no second-hand or poor engravings, such as patentees often get executed by inexperienced artists for printing circulars and handbills from, can be admitted into these pages. We also reserve the right to accept or reject such subjects as are presented for publication. And it is not our desire to receive orders for engraving and publishing any but good Inventions or Machines, and such as do not meet our approbation in this respect, we shall decline to publish.

A patentee can not possibly adopt any other medium which is equal to this, in order to make known his improvement. The judicious use of the newspaper press is one of the surest roads to success in business.

Address

MUNN & CO.,

37 Park Row, N. Y.

## THE NEW PATENT LAW.

### AN ACT IN ADDITION TO "AN ACT TO PROMOTE THE PROGRESS OF THE USEFUL ARTS."

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the Commissioner of Patents may establish rules for taking affidavits and depositions required in cases pending in the Patent Office, and such affidavits and depositions may be taken before any justice of the peace, or other officer authorized by law to take depositions to be used in the courts of the United States, or in the State courts of any State where such officer shall reside; and in any contested case pending in the Patent Office, it shall be lawful for the clerk of any court of the United States for any district or Territory, and he is hereby required, upon the application of any party to such contested case, or the agent or attorney of such party, to issue subpoenas for any witnesses residing or being within the said district or Territory, commanding such witnesses to appear and testify before any justice of the peace, or other officer as aforesaid, residing within the said district or Territory, at any time and place in the subpoena to be stated; and if any witness, after being duly served with such subpoena, shall refuse or neglect to appear, or, after appearing, shall refuse to testify, (not being privileged from giving testimony,) such refusal or neglect being proved to the satisfaction of any judge of the court whose clerk shall have issued such subpoena, said judge may thereupon proceed to enforce obedience to the process, or to punish the disobedience in like manner as any court of the United States may do in case of disobedience to process of *subpoena ad testificandum* issued by such court; and witnesses in such cases shall be allowed the same compensation as is allowed to witnesses attending the courts of the United States: *Provided*, That no witness shall be required to attend at any place more than forty miles from the place where the subpoena shall be served upon him to give a deposition under this law: *Provided, also*, That no witness shall be deemed guilty of contempt for refusing to disclose any secret invention made or owned by him: *And provided, further*, That no witness shall be deemed guilty of contempt for disobeying any subpoena directed to him by virtue of this act, unless his fees for going to, returning from, and one day's attendance at the place of examination shall be paid or tendered to him at the time of the service of the subpoena.

SEC. 2. *And be it further enacted*, That, for the purpose of secur-

ing greater uniformity of action in the grant and refusal of Letters Patent, there shall be appointed by the President, by and with the advice and consent of the Senate, three Examiners-in-Chief, at an annual salary of three thousand dollars each, to be composed of persons of competent legal knowledge and scientific ability, whose duty it shall be, on the written petition of the applicant for that purpose being filed, to revise and determine upon the validity of decisions made by Examiners when adverse to the grant of Letters Patent; and also to revise and determine in like manner upon the validity of the decisions of Examiners in interference cases, and when required by the Commissioner in application for the extension of patents, and to perform such other duties as may be assigned to them by the Commissioner; that from their decisions appeals may be taken to the Commissioner of Patents in person, upon payment of the fee hereinafter prescribed; that the said Examiners-in-Chief shall be governed in their action by the rules to be prescribed by the Commissioner of Patents.

SEC. 3. *And be it further enacted*, That no appeal shall be allowed to the Examiners-in-Chief from the decisions of the Primary Examiners, except in interference cases, until after the application shall have been twice rejected; and the second examination of the application by the Primary Examiner shall not be had until the applicant, in view of the references given on the first rejection, shall have renewed the oath of invention, as provided for in the seventh section of the act entitled, "An act to promote the progress of the useful arts, and to repeal all acts and parts of acts heretofore made for that purpose," approved July fourth, eighteen hundred and thirty-six.

SEC. 4. *And be it further enacted*, That the salary of the Commissioner of Patents, from and after the passage of this act, shall be four thousand five hundred dollars per annum, and the salary of the Chief Clerk of the Patent Office shall be two thousand five hundred dollars, and the salary of the Librarian of the Patent Office shall be eighteen hundred dollars.

SEC. 5. *And be it further enacted*, That the Commissioner of Patents is authorized to restore to the respective applicants, or, when not removed by them, to otherwise dispose of such of the models belonging to rejected applications as he shall not think necessary to be preserved. The same authority is also given in relation to all models accompanying applications for designs. He is further authorized to dispense in future with models of designs, when the design can be sufficiently represented by a drawing.

SEC. 6. *And be it further enacted*, That the tenth section of the act, approved the third of March, eighteen hundred and thirty-seven, authorizing the appointment of agents for the transportation of models and specimens to the Patent Office, is hereby repealed.

SEC. 7. *And be it further enacted*, That the Commissioner is further authorized, from time to time, to appoint, in the manner already provided for by law, such an additional number of principal Examiners, First Assistant Examiners, and Second Assistant Examiners as may be required to transact the current business of the Office with dispatch, provided the whole number of additional Examiners shall not

exceed four of each class, and that the total annual expenses of the Patent Office shall not exceed the annual receipts.

SEC. 8. *And be it further enacted*, That the Commissioner may require all papers filed in the Patent Office, if not correctly, legibly, and clearly written, to be printed at the cost of the parties filing such papers; and for gross misconduct he may refuse to recognise any person as a patent agent, either generally or in any particular case; but the reasons of the Commissioner for such refusal shall be duly recorded, and subject to the approval of the President of the United States.

SEC. 9. *And be it further enacted*, That no money paid as a fee on any application for a patent, after the passage of this act, shall be withdrawn or refunded, nor shall the fee paid on filing a caveat be considered as part of the sum required to be paid on filing a subsequent application for a patent for the same invention.

That the three months' notice given to any caveator, in pursuance of the requirements of the twelfth section of the act of July fourth, eighteen hundred and thirty-six, shall be computed from the day on which such notice is deposited in the Post-Office, at Washington, with the regular time for the transmission of the same added thereto, which time shall be indorsed on the notice; and that so much of the thirteenth section of the act of Congress, approved July fourth, eighteen hundred and thirty-six, as authorizes the annexing to Letters Patent of the description and specification of additional improvements, is hereby repealed, and in all cases where additional improvements would now be admissible, independent patents must be applied for.

SEC. 10. *And be it further enacted*, That all laws now in force fixing the rate of the Patent Office fees to be paid, and discriminating between the inhabitants of the United States and those of other countries which shall not discriminate against the inhabitants of the United States, are hereby repealed, and in their stead the following rates are established:

On filing each caveat, ten dollars.

On filing each original application for a patent, except for a design, fifteen dollars.

On issuing each original patent, twenty dollars.

On every appeal from the Examiners-in-Chief to the Commissioner, twenty dollars.

On every application for the re-issue of a patent, thirty dollars.

On every application for the extension of a patent, fifty dollars; and fifty dollars in addition on the granting of every extension.

On filing each disclaimer, ten dollars.

For certified copies of patents and other papers, ten cents per hundred words.

For recording every assignment, agreement, power of attorney, and other papers of three hundred words or under, one dollar.

For recording every assignment, and other papers, over three hundred and under one thousand words, two dollars.

For recording every assignment or other writing, if over one thousand words, three dollars.

For copies of drawings, the reasonable cost of making the same.

SEC. 11. *And be it further enacted*, That any citizen or citizens, or alien or aliens, having resided one year in the United States, and taken the oath of his, her, or their intention to become a citizen or citizens, who, by his, her, or their own industry, genius, efforts, and expense, may have invented or produced any new and original design for a manufacture, whether of metal or other material or materials, and original design for a bust, statue, or bas-relief, or composition in alto or basso relievo, or any new and original impression or ornament, or to be placed on any article of manufacture, the same being formed in marble or other material, or any new and useful pattern, or print, or picture, to be either worked into or worked on, or printed, or painted, or cast, or otherwise fixed on any article of manufacture, or any new and original shape or configuration of any article of manufacture not known or used by others before his, her, or their invention or production thereof, and prior to the time of his, her, or their application for a patent therefor, and who shall desire to obtain an exclusive property or right therein to make, use, sell, and vend the same, or copies of the same to others, by them to be made, used, and sold, may make application in writing to the Commissioner of Patents, expressing such desire; and the Commissioner, on due proceedings had, may grant a patent therefor, as in the case now of application for a patent, for the term of three and one half years, or for the term of seven years, or for the term of fourteen years, as the said applicant may elect in his application: *Provided*, That the fee to be paid in such application shall be, for the term of three years and six months, ten dollars, for seven years fifteen dollars, and for fourteen years thirty dollars. *And provided*, That the patentees of designs under this act shall be entitled to the extension of their respective patents for the term of seven years from the day on which said patents shall expire, upon the same terms and restrictions as are now provided for the extension of Letters Patent.

SEC. 12. *And be it further enacted*, That all applications for patents shall be completed and prepared for examination within two years after the filing of the petition, and in default thereof, they shall be regarded as abandoned by the parties thereto, unless it be shown to the satisfaction of the Commissioner of Patents that such delay was unavoidable, and all applications now pending shall be treated as if filed after the passage of this act; and all applications for the extension of patents shall be filed at least ninety days before the expiration thereof; and notice of the day set for the hearing of the case shall be published, as now required by law, for at least sixty days.

SEC. 13. *And be it further enacted*, That in all cases where an article is made or vended by any person under the protection of Letters Patent, it shall be the duty of such person to give sufficient notice to the public that said article is so patented, either by fixing thereon the word patented, together with the day and year the patent was granted; or when, from the character of the article patented, that may be impracticable, by enveloping one or more of the said articles, and affixing a label to the package, or otherwise attaching thereto a label on which the notice, with the date, is printed; on failure of which, in any suit for the infringement of Letters Patent by the party failing so to mark the article, the right to which is infringed upon, no damage shall be recovered by

exceed four of each class, and that the total annual expenses of the Patent Office shall not exceed the annual receipts.

SEC. 8. *And be it further enacted*, That the Commissioner may require all papers filed in the Patent Office, if not correctly, legibly, and clearly written, to be printed at the cost of the parties filing such papers; and for gross misconduct he may refuse to recognize any person as a patent agent, either generally or in any particular case; but the reasons of the Commissioner for such refusal shall be duly recorded, and subject to the approval of the President of the United States.

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For recording every assignment, and other papers, over three hundred and under one thousand words, two dollars.

For recording every assignment or other writing, if over one thousand words, three dollars.

For copies of drawings, the reasonable cost of making the same.

Sec. 11. *And be it further enacted*, That any citizen or citizens, or alien or aliens, having resided one year in the United States, and take the oath of his, her, or their intention to become a citizen or citizens, who, by his, her, or their own industry, genius, efforts, and expense, may have invented or produced any new and original design for manufacture, whether of metal or other material or materials, an original design for a bust, statue, or bas-relief, or composition in alt or basso relievo, or any new and original impression or ornament, or to be placed on any article of manufacture, the same being formed in marble or other material, or any new and useful pattern, or print, or picture, to be either worked into or worked on, or printed, or painted or cast, or otherwise fixed on any article of manufacture, or any new and original shape or configuration of any article of manufacture not known or used by others before his, her, or their invention or production thereof, and prior to the time of his, her, or their application for a patent therefor, and who shall desire to obtain an exclusive property or right therein to make, use, sell, and vend the same, or copies of the same to others, by them to be made, used, and sold, may make application in writing to the Commissioner of Patents, expressing such desire; and the Commissioner, on due proceedings had, may grant a patent therefor, as in the case now of application for a patent, for the term of three and one half years, or for the term of seven years, or for the term of fourteen years, as the said applicant may elect in his application: *Provided*, That the fee to be paid in such application shall be, for the term of three years and six months, ten dollars, for seven years fifteen dollars, and for fourteen years thirty dollars. *And provided*, That the patentees of designs under this act shall be entitled to the extension of their respective patents for the term of seven years from the day on which said patents shall expire, upon the same terms and restrictions as are now provided for the extension of Letters Patent.

Sec. 12. *And be it further enacted*, That all applications for patents shall be completed and prepared for examination within two years after the filing of the petition, and in default thereof, they shall be regarded as abandoned by the parties thereto, unless it be shown to the satisfaction of the Commissioner of Patents that such delay was unavoidable, and all applications now pending shall be treated as if filed after the passage of this act; and all applications for the extension of patents shall be filed at least ninety days before the expiration thereof; and notice of the day set for the hearing of the case shall be published, as now required by law, for at least sixty days.

Sec. 13. *And be it further enacted*, That in all cases where an article is made or vended by any person under the protection of Letters Patent, it shall be the duty of such person to give sufficient notice to the public that said article is so patented, either by fixing thereon the word patented, together with the day and year the patent was granted; or when, from the character of the article patented, that may be impracticable, by enveloping one or more of the said articles, and affixing a label to the package, or otherwise attaching thereto a label on which the notice, with the date, is printed; on failure of which, in any suit for the infringement of Letters Patent by the party failing so to mark the article, the right to which is infringed upon, no damage shall be recovered by



the plaintiff, except on proof that the defendant was duly notified of the infringement, and continued after such notice to make or vend the article patented. And the sixth section of the act, entitled, "An Act in addition to an act to promote the progress of the useful arts," and so forth, approved the twenty-ninth day of August, eighteen hundred and forty-two, be, and the same is hereby, repealed.

SEC. 14. *And be it further enacted*, That the Commissioner of Patents be, and he is hereby authorized to print, or, in his discretion, to cause to be printed, ten copies of the description and claims of all patents which may hereafter be granted, and ten copies of the drawings of the same, when drawings shall accompany the patents: *Provided*, The cost of printing the text of said descriptions and claims shall not exceed, exclusive of stationery, the sum of two cents per hundred words for each of said copies, and the cost of the drawings shall not exceed fifty cents per copy; one copy of the above number shall be printed on parchment, to be affixed to the Letters Patent. The work shall be under the direction, and subject to the approval, of the Commissioner of Patents, and the expense of the said copies shall be paid for out of the patent fund.

SEC. 15. *And be it further enacted*, That printed copies of the Letters Patent of the United States, with the seal of the Patent Office affixed thereto, and certified and signed by the Commissioner of Patents, shall be legal evidence of the contents of said Letters Patent in all cases.

SEC. 16. *And be it further enacted*, That all patents hereafter granted shall remain in force for the term of seventeen years from the date of issue, and all extensions of such patents are hereby prohibited.

SEC. 17. *And be it further enacted*, That all acts and parts of acts heretofore passed which are inconsistent with the provisions of this act, be, and the same are hereby, repealed.

Approved March 2, 1861.

NOTE.—Messrs. MUNN & Co. will undertake to advise patentees and assignees in respect to all questions arising under the law of patents, and will supply them with all necessary legal counsel in reference to the bringing of suits for infringements, and the defence of the same; also in interfering and extension cases.